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BRITISH MUSEUM NATURAL HISTORY

RATHAS at MAMALLAIPUR

from a Sketch by Lieut.t Braddock.

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No. 30—*April* 1844.

I.—*A Guide to the Sculptures, Excavations, and other remarkable objects at Mamallaipur, generally known to Europeans as "the Seven Pagodas," by the late Lieutenant* JOHN BRADDOCK, *of the Madras Establishment. To which are added some Archæological Notes, by the Reverend* WILLIAM TAYLOR, *and a Supplementary account of the remains at Salvan Cuppam, by* WALTER ELLIOT *Esq. of the Madras Civil Service.—Communicated by the Reverend* GEORGE WILLIAM MAHON, A. M., *Garrison Chaplain, Fort St. George.*

In the month of June 1840, I accompanied a small party of friends on a visit to the remarkable remains at Mamallaipur. As our excursion, from its necessary brevity, was likely to prove one of amusement rather than of antiquarian research, and the large quartos of the Asiatic Society are somewhat cumbrous, we borrowed from our friend Mr. Braddock a little pamphlet published by him some years before, which at once served as a guide to what was worth seeing, and explained to such of us as were but slightly acquainted with Hindu Mythology the subjects and allusions of the various sculptures.

On our return I expressed to Mr. Braddock a desire that he should undertake a fuller account of the place, and suggested that it should combine the useful and entertaining properties of a Guide Book with the more important lucubra-

tions of the scholar. As topics for the latter I named a more satisfactory account of the Inscriptions, and some information, if obtainable, as to the History of Mamallaipur and the origin of the excavations and sculptures. With his habitual modesty he seemed to doubt his competency to deal with the latter subjects, but promised to revise and dilate his former paper. I then suggested that he should solicit the assistance of his old and valued friend, the Rev. W. Taylor, in ascertaining something of the history of the place. This gentleman, so well known as an accomplished oriental linguist, having been recently engaged in the examination of the Mackenzie MSS., might, I thought, have discovered amongst them some information tending to throw light on so interesting a subject. Mr. Taylor, it will be seen, has responded with equal good feeling and ability to the request so made to him; and his notes appended to Mr. Braddock's paper, must be considered as a most valuable addition to it.

As Mr. Braddock proceeded with his work he forwarded the rough sheets for my perusal, with a request that I should suggest any alterations which my more recent visit to the place might enable me to do. The paper was scarcely completed, no time had been granted for revision, I had not even seen its concluding sheets, when the amiable and talented writer was hurried away by one of those rapid attacks which disease sometimes makes on European constitutions in this climate: and I was called on, all but unexpectedly, to perform the last sad offices for one whom I had so recently seen usefully and actively employed. A marble tablet erected in the Church at Vepery by public subscription, serves to perpetuate the memory of this worthy man; and at the same time to evince the general sense of his Christian virtues, of his scientific acquirements, and of his constant readiness to employ them for the public good.

Some months after Mr. Braddock's death, I was requested

by his family to revise and prepare for publication his papers on Mamallaipur: a task which I have undertaken not without great diffidence. Had my lamented friend survived, he would, I doubt not, have made many emendations in them, which cannot on many accounts be done by another hand.

It will be seen that neither Mr. Braddock nor Mr. Taylor has treated of the *Inscriptions* at Mamallaipur, otherwise than incidentally. Those who wish for some account of them, may be referred to the valuable article by Dr. Babington in the 2d Volume of the Transactions of the Royal Asiatic Society. He says that he noticed three kinds of inscriptions at "Mahamalaipur," two of which have remained undecyphered, and that it is highly probable that there are other kinds to be met with in the neighbourhood. The first he alludes to is an ancient Tamul Inscription on a face of rock, by the side of the inner entrance to the Varáha Swami Pagoda (No. 29 in the Map.) He gives no copy of it, but states that "it records a grant to the "Varáha Swami Pagoda of a quantity of land." The language of this inscription renders it doubtful whether it is of earlier or later date than some of the others, which are in Sanscrit. Dr. Babington says that throughout this Tamul inscription the place is called "Mahamalaipur," which he translates "city "of the great mountain," adding that the word Maha may imply "greatness of sanctity or renown." This if correct might be adduced as proof of the more recent age of the inscription; for the hill is by no means remarkable, otherwise than for the "sanctity or renown" which the sculptures may have procured for it. It will be seen however that the Rev. W. Taylor speaks of two inscriptions, in which the place is called Mamallaipur, with two *l*'s, and if this orthography is correct, which he seems to think it is, the translation of Dr. Babington is of course overthrown, since mallai does not mean "hill." The present name of the place in common use appears to be Mavalavaram, and not Maha-balipuram, as some have stated. The latter mistake can scarcely be regretted however by those

who have perused the pleasing fiction which the poetical talent of Southey has embodied in his "Curse of Kehama."

The second kind of inscription mentioned by Dr. Babington, appears in the temple dedicated to Gánesa, situated near the north end of the hill, and described in its order by Mr. Braddock. By the assistance of his Jain Brahman in decyphering the characters Dr. Babington was enabled to translate this inscription; and as it appears that much of the substance of it is repeated in some other inscriptions which he subsequently examined, it may prove interesting to copy his translation in this place. It consists of ten *slocas* decyphered, and there remains undecyphered, about as much as would make two *slocas* more.

Translation by Dr. Babington and his Jain Brahman of the ten first slocas in the Sanscrit Inscription found in the Ganesa Pagoda at Mamallaipur.

"1. May the cause of creation, existence and destruction, which is "itself without cause, the destroyer of Manmadan (*desire*) be propitious "to the desires of the world.

"2. May he who is united with UMA, of many kinds of illusion, without quality, the destroyer of evil dispositions, of incorruptible wealth, "the Lord of CUBERAN, be counted excellent.

"3. May that deity (SIVA) protect us all, who is the seat of prosperity, "and by whose means CAILASA disappeared and descended to Pátála, "yielding by its weight, which he caused on account of its being with "(*supported by*) the ten faced (RÁVANAN).

"4. May he who bears SIVA in his mind engrossed by devotion, and "the earth on his shoulders, with as much ease as if it were an ornament, "long prevail.

"5. By that king of satisfied wishes, with crowds of conquered enemies, who is known by the name of JAYARANA STHAMBHA, this building "was made.

"6. May that fear-inspiring, good-giving, desire-destroying SIVA, to "whom the earth, space, moon, fire, the sun &c. are a body, be victorious.

"7. The good-faced among nations *(the beauty of the world)* sprung "from a mother bringing forth heroes, remains without doubt in a place "of lotuses, full of sacred waters, and is adorned with all sorts of precious stones.

"8 and 9. SIVA the beautiful, sits in the broad lake Siras, which "teems with *(is a mine of)* lotuses, resembling variegated gems, and is "full of water for sprinkling the fortunate and much-loved KÁMARÁJA, "who puts down the pride of his enemies, who is the source *(receptacle)* "of glory, and is earnest in worshipping SIVA.

"10. He (KÁMARÁJA,) who dwells on the heads of Kings, caused "this temple of SIVA, which resembles the temple on Cailásá to be erect-"ed for the happiness of the earth."

Three additional inscriptions were sent to Dr. Babington, by some Madras friends; one by Colonel DeHaviland from the "north side of a verandah of a pagoda (No. 30 in the map) "excavated out of the solid granite, two miles north of the place." Of these Dr. Babington says "all these inscriptions differ "in character from each other, but agree precisely in matter; "and it is remarkable that the *slocas* of which they are com-"posed, are, with the exception of the last, contained, though "in different order, in the inscription copied by me from the "wall of the Ganesa Pagoda." "My inscription, is in a cha-"racter differing again from any of the rest." "The other "inscriptions consist of five *slocas* only, with some undecy-"phered portions." "The first three *slocas* in my inscription "are not found in the others; my fourth *sloca* is the same as "theirs. The fifth, sixth and seventh *slocas* of my inscription "are wanting in the others. My eighth and ninth *slocas* are "their first and second, and my tenth is their third. Their "fifth *sloca* I have ascertained after a very careful comparison, "to be quite different from the undecyphered portion of my "inscription. Its translation is as follows:

"ATIRAŃACHANDA *(he who in battle is very furious)* Lord of Kings "built this place, called Atiranachandéswara. May SIVA the beloved, "accompanied by the daughter (PÁRVATÍ) of the snowy mountain, by "CARTICEYA, and their suite of deities, be present in it for ever."

The third kind of inscription is found over the figures on the monolithic temples to the south of the village. So completely have these characters become obsolete, that none of the learned natives consulted were able to decypher them.

After considerable trouble Dr. Babington himself succeeded in doing so.

It might reasonably have been expected that these Inscriptions would have thrown some light on the origin or probable age of the sculptures, excavations and themselves. They afford no very precise information at all. The appellations given to the prince or princes who "caused the erections," are mere epithets, by which no individual can with certainty be identified, (vide Mr. Taylor's note *d*); and were it possible to do this, the chronology must still be in a very great degree theoretical. I perfectly agree in opinion with Mr. Taylor that there is little in the sculptures themselves, if we except the Rathas, the Varáha Swami Pagoda, the Ganesa temple and the temple at Salvan Cuppam, to justify the supposition of their very great antiquity. Most of them are in the most perfect preservation, and present a freshness of appearance which creates an involuntary idea of their almost recent execution. The subjects of the sculptures too are an evidence that they are not of very remote antiquity. They are representations of various personages and incidents in Hindu mythology, and are chiefly borrowed from the famous poem the Mahabharata. This and the language of the inscriptions which is Sanscrit, or Tamul with Sanscrit derivatives, mark the presence of the Brahmanical faith. Now it appears from Mr. Taylor's researches that previous to the Seventh Century of the Christian Era, the whole of the district in which Mamallaipur stands was occupied by thv Curumbas, a half-civilised people of the Jaina religion; and it was about that period or probably later, that under the auspices of Adondai, a prince whose capitals were Conjeveram and Tripeti, the Brahmans were introduced into this part of the country. The extent of the works, and the labor and expence bestowed on them seem to indicate a long established Brahmanical influence; and it will be seen, from Mr. Taylor's note (c), that an historical paper amongst the Mackenzie MSS. affords grounds for supposing that at least

some of these excavations &c. were executed so lately as the Seventeenth Century, by a prince denominated Sinhamanayadu. The supplementary paper by Walter Elliot Esq. relating to the remains at Salvan Cuppam, serves to suggest a much earlier date than the latter for certain of these remarkable productions which he therein specifies.

Works of this nature have been executed in all parts of the world during the earlier stages of civilization. Rocky caves formed by nature offer a congenial shelter for the gloomy rites of a dark superstition, a ready defence from the attacks of enemies or the inclemency of the weather, and supplied appropriate receptacles for the remains of the dead. In the most ancient times the Holy Scriptures speak of caves as places of residence and refuge, as well as of sepulture. Many of these natural recesses were greatly enlarged and rendered more commodious, or better adapted for the purposes of shelter and defence by human labor and art. This may still be traced in several countries of the East. Maundrell has described a cave near Sidon, whose sides contain two hundred smaller caverns. Sir R. K. Porter has given an interesting account of a cavern or labyrinth in the mountain of Kerefto, in Eastern Courdistan. Similar excavations are found according to the same authority at Maraga in Media; in the mountains near the lake Sivan, and near the site of Artaxata, the ancient capital of Armenia. The sepulchral caves of Egypt have been admirably illustrated by Belzoni. Sir Alexander Burnes has given an interesting account of the sculptures and caves at Bameean. Those at Elephanta and Ellora are well known in India: and such as are interested in these remarkable records of past times, should not overlook the description and beautiful sketches of Petra by Laborde. Amongst the savages of North Western Australia, Captain Gray has discovered sculptured rocks and painted caverns. In this way nature appears to have suggested to mankind the earlier efforts of art.

The Rathas, or Monolithic temples to the south of the village, are probably the most ancient of the remains at Mamallaipur. Their inscriptions are in a character so completely obsolete, that the most learned natives, according to Dr. Babington, are unable to decypher them. This species of sculpture is remarkable, and much more rare than mere excavations. It was however practiced by the ancient Egyptians, and Herodotus (Lib. II. cap. 155) has given a short description of a monolithic temple of Latona, which stood at Buto, near the Sebennytic mouth of the Nile. He says it measured 40 cubits or 60 feet in height, breadth, and width: and its roof consisted of a separate stone, four cubits high. This temple, which must have been conveyed to its site, must have weighed on the lowest computation upwards of 5000 Tons. At the 175th chapter of the same book, he describes another monolithic temple at Sais, which had been brought thither by king Amasis from Elephantine, the island opposite Syene, immediately below the first cataract; a distance of twenty days sail, or of 700 miles by land. The outside measurement of this monolith he states to be—length 21 cubits, breadth 14, and height 8: the inside measurement was—length 18 cubits and 1 pygon; breadth 12 cubits; and the height 5 cubits. Taking the cubit in round numbers at 1 foot 6 inches and the pygon at 1 foot 3 inches, the temple must have been externally 31 feet 6 inches long, 21 feet broad and 12 feet high: and internally 28 feet 3 inches long, 18 feet broad, and 7½ feet high. This monolith then was inferior in point of mere size to the largest of those at Mamallaipur; the dimensions of which externally, according to Mr. Goldingham, are as follows;—length 49 feet, breadth 25 feet, and height 25 feet. But we must remember that while these are in loco naturæ, being cut in fact from large boulders or distinct masses of granite, the monolith of Amasis had to be conveyed to its site by manual labor; and Herodotus affirms that two thousand boatmen were occupied in its removal for a period of upwards of three years. After all indeed it was not placed

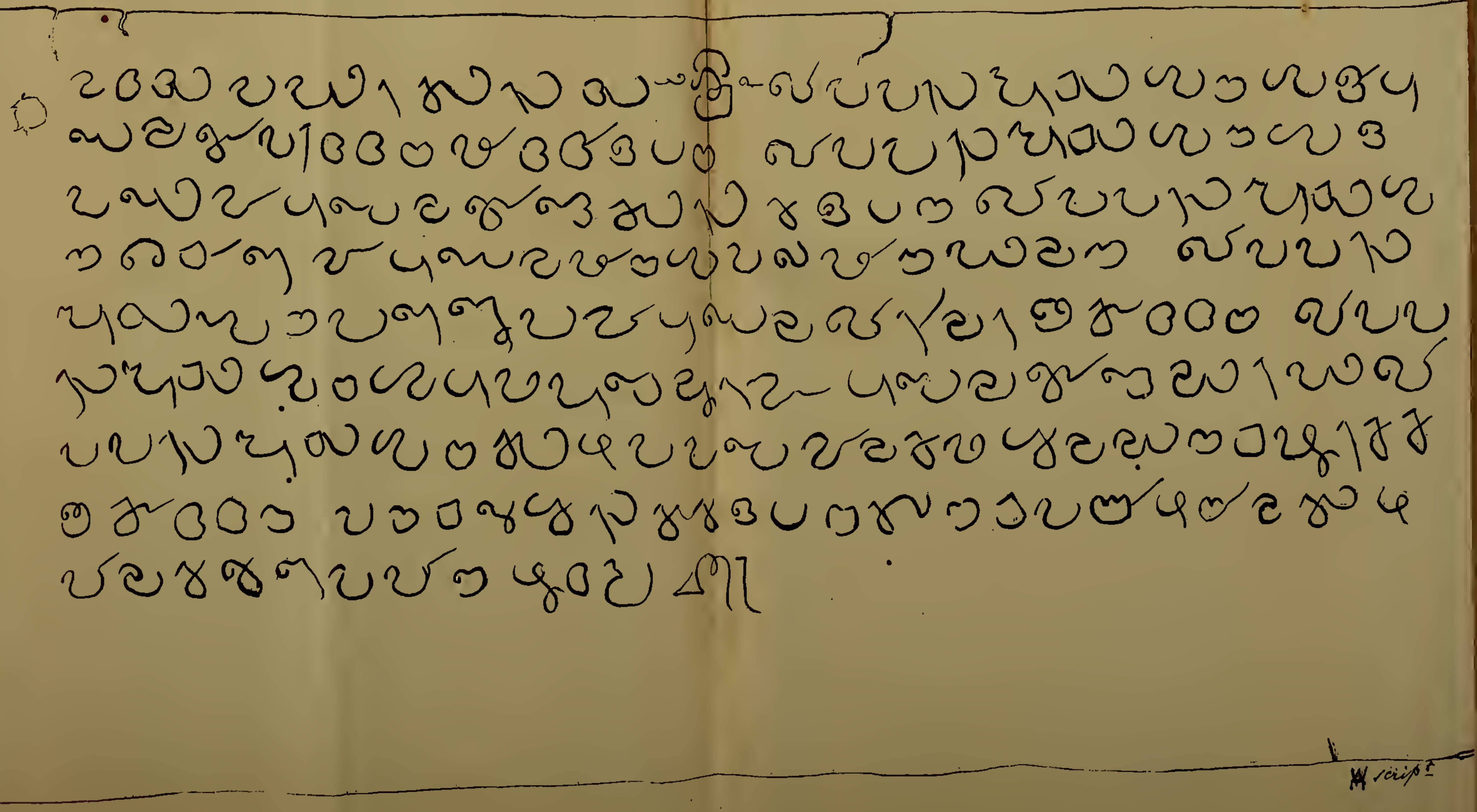
precisely where the king had proposed; for which two reasons are assigned. First that the architect, weary of the labor and time expended on the work, heaved a deep sigh as the workmen were dragging it forward; which Amasis interpreted as an unfavorable omen: and secondly, that one of the workmen, having unfortunately fallen under the moving mass, was crushed to death, and on this account it was allowed to remain where it then was. Mr. Burton in his excerpta (plate 41) gives a representation of a similar monolith said to be of the same king, and found at Tel-et-mai. This measures externally 21 feet 9 inches high, 13 feet broad, and 11 feet 7 inches deep: and internally 19 feet 3 inches high, 8 feet broad, and 8 feet 3 inches deep.

The Sculptured Rocks at Mamallaipur, (on which is represented the penance of Arjuna,) are by no means without their parallel. This primitive application of the art of sculpture seems an obvious mode of perpetuating the memory of events, historical or mythological, and has been adopted from the earliest ages. On the rocks of the river Lycus, near Beirout in Syria, are still to be seen the figure in relief, and the name inscribed, of Remeses the great king of Egypt, who is supposed to have flourished about B. C. 1350, and was therefore contemporary with Ehud and Shamgar mentioned in the book of Judges: but early Egyptian chronology is so exceedingly uncertain, that the era of Remeses must always be conjectural. Not far from this is another sculpture of a Persian king, and an inscription in the arrow headed character, which not having been yet decyphered affords likewise no conclusive evidence as to its age. Copies of these have been made by Bonomi. No Christian can have forgotten the exclamation of Job, "Oh that my words were now written! Oh that they were printed in a book! That they were graven with an iron pen and lead in the rock for ever!" (chap. xix. 23, 24.) And from some remains in the wady

Mokatteb, and in other valleys near the mountains of Sinai, it would seem that the art of "engraving" on rocks is in those regions of great antiquity. Figures of men and animals accompany those inscriptions; the characters of the latter are for the most part unknown in the present day. These inscribed rocks extend in one place for about 3 hours march, and are mentioned by Burkhardt, Laborde and other travellers.

At Be-Sitoon, near Kermansheh in Persia, is a stream above whose fountain head is a projecting rock containing the remains of an immense piece of sculpture. The great antiquity of this interesting relic is evidenced by the successive mutilations it has suffered, to afford room for subsequent inscriptions, as well as by the ordinary operations of time upon both it and them. By Mr. Macdonald Kinnier this bas-relief has been supposed identical with one spoken of by Diodorus Siculus, on the authority of Ctesias; who certainly had peculiar advantages for obtaining accurate information connected with Persian tradition and history. He says, "we are informed by Diodorus Siculus that Semiramis in her march to Ecbatana, encamped near a mountain called Bagistan in Media. She cut out a piece of the lower part of the rock, and caused her image to be carved upon it, and a hundred of her guards that were lanceteers, standing round her; she wrote likewise in Assyrian letters on the rock, that Semiramis ascended from the plain to the top of the mountain, by laying the packs and fardles of the beasts that followed her one upon another." There are many points of resemblance between the mountain of Be-sitoon and that of Bagistan described by Diodorus Siculus; and supposing Mr. Kinnier to be right in his conjectures, we have here the remnants, for they are unfortunately no more, of a bas-relief executed at the lowest computation 800 years before the Christian Era. Throughout ancient Media and Persia sculptured rocks, of various ages, repeatedly occur: a great many of

Facsimile of the Copper Grant belonging to the Jews of Cochin.



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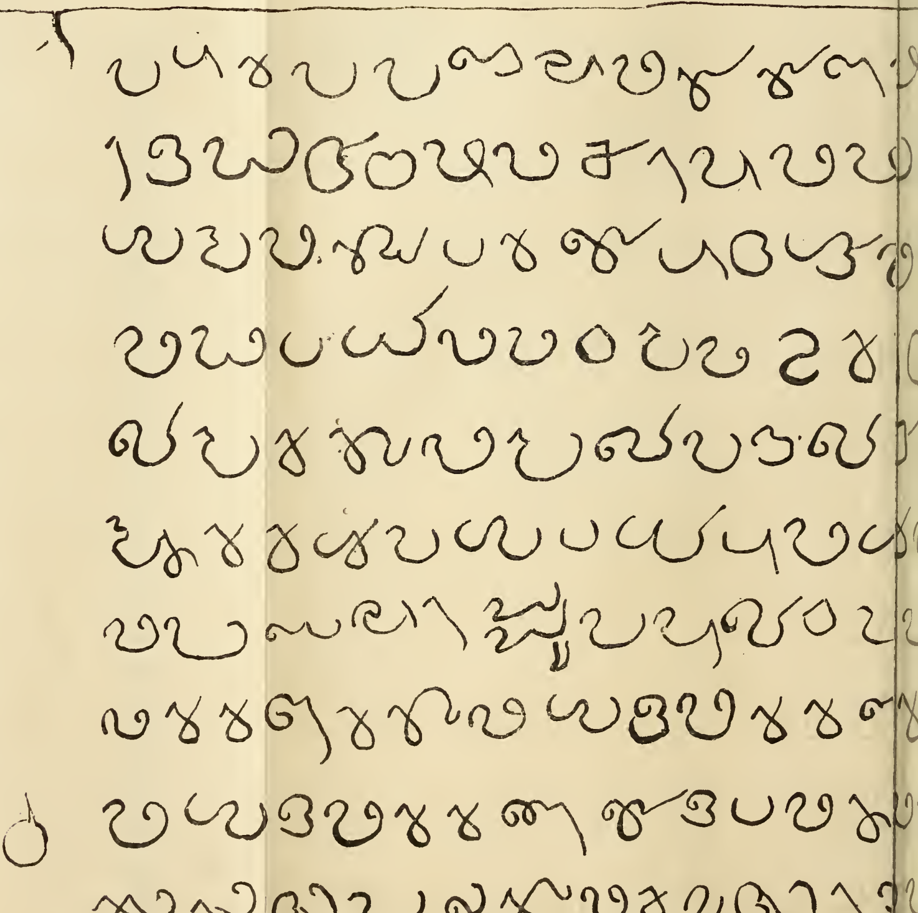

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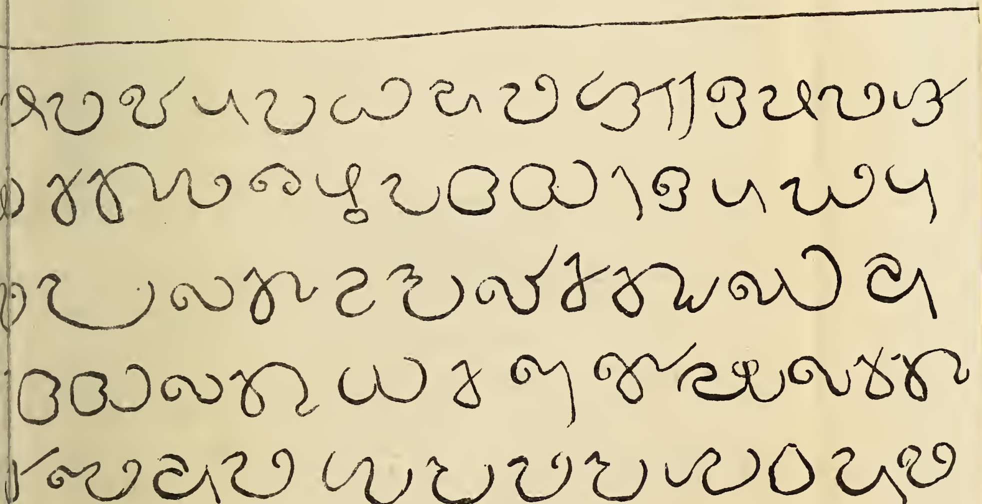

scrips^t.

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these bas-reliefs however appear to belong to the Sassanian Era: (from A. D. 226 to A. D. 632.)

These introductory notes have I fear already become too long and tedious; it only remains therefore that I acknowledge my obligations to Walter Elliott Esq. of the Madras Civil Service, to whose friendly kindness I am indebted for the very valuable supplementary paper on the remains at Salvan Cuppam, as well as for a map of Mamallaipur, drawn in 1808 by Colonel Mackenzie. The latter I have reduced, and by numbering the several objects both in it and in Mr. Braddock's description, I have endeavoured to render the whole a more useful guide to those who may dedicate a few spare hours to a visit to this interesting spot. The sculptures are for the most part such as to mark no very advanced state of art. They possess none of that finished elegance and refined taste, and but little of that purer poetic spirit, which characterize the productions of Europe. Still they are highly deserving attention as the best specimens of native skill to be met with I believe in Southern India; and will not be undervalued by those who are capable of comprehending the extent to which art, even in its earliest infancy, has contributed to the civilization of mankind.

G. W. M.

Fort St. George.

Lieutenant Braddock's Guide to the Sculptures, Excavations &c. at Mamallaipur

I shall commence my account of these curious sculptures and ruins with a small dilapidated temple built within fifty yards of the northern termination of the hill. (No. 1.) It is a rectangular building of plain hewn stone devoid of ornament: 24 feet long, 15 feet broad and about 12 feet high. It has two apartments, the innermost of which contains a black stone Lingam, neatly executed and in good preservation, notwithstanding that from the absence of roofing it is exposed to the weather. This temple is completely overshadowed with trees, which have taken root in the walls, and whose branches forcing their way through the joints of the stones have contributed much to its dilapidation and present ruinous appearance.

At a short distance to the eastward of this Pagoda, lies the *Group of Monkies* (No. 2) spoken of in the Asiatic Researches, in an account of this place written in 1784. The group, now much buried in the sand, consists of a male, a female and a young one. The male monkey with a laudable love of cleanliness is studying the head of its partner with the most friendly attention, and the young one is satisfying its hunger. At a little distance lies a mutilated figure of Ganésa or Pillaiyãr, the Hindu God of highways &c. of whom I shall speak presently.

Looking towards the south, a *loose mass of rock* (No. 3) will be seen resting on a slope of the hill, apparently on so mere a point, that it seems as though a small force would dislodge it and roll it headlong on the plain. Its circumference is 68 feet and its height about 25.* From the eastward it has a circular appearance; from other points of view its figure is irregular.

* Mr. Goldingham gives its diameter as 27 feet.

On the western face of the northern termination of the hill, not far south of the pagoda just described, may be found, after a little search, a circular cistern cut out of a solid stone. It is 8 feet 6 inches in diameter and 4 feet deep, but cracked.

Near this cistern the face of the rock is carved and ornamented to the extent of 28 feet in length by 14 feet in height. There are 3 *large excavated niches* (No. 4) with a flight of 4 steps leading into each. Figures are sculptured on each side the entrances. The centre or principal niche contains a figure of Mahadeva and four other figures cut on the back wall. The other two niches contain a figure of Vishnu and four others. This rock faces the north-west, and to the right, or south, of it, is an imperfect representation of Dŭrga, eight-handed, and trampling under foot the head of Mahishasura, whose story will be told presently. On the eastern face of this rock are carvings of a well proportioned elephant 5 feet high, and the heads of three smaller elephants, with those of a monkey and of a peacock. The communication between the eastern and western faces of this rock is through a cleft at the north end of it.

At a short distance in a south-westerly direction from this place is an *excavation* in the solid rock (No. 5) measuring 22 feet long, 9 feet 6 inches deep and 8 feet high. The top is supported by two plain, strong, square pillars. It contains a square niche, on each side of which is a figure, probably that of Parvati, a goddess who will be introduced to the reader presently. This excavation is on the western face of the hill, which is a continuous range of granite masses.

Still keeping on the same side, at 100 or 150 yards southward from the last excavation we come to *another* (No. 6) containing five niches, with steps leading into three of them ; and two rows of pillars, four in each. This excavation is 36 feet long, 16 feet deep, and nearly 10 feet high. The niches con-

tain each a kind of recess, (intended probably for a group of figures,) and a circular trench, (intended probably for Lingams.) A figure is carved on each side of all the niches at the entrance. Four steps lead into this temple which faces north-west, half-west.

Adjoining is a *rough excavation* 36 feet long, 10 deep and 10 high. In the middle is a large niche, also rough. About 12 feet of the rock appear to have been cut away before sufficient height was obtained for the front. This occurs in other places also; and a platform or level space, is thus formed in the rock in front.

About half a mile westward, at the western extremity of the Palmira tope which is on the west of the hill, there are three small unfinished temples sculptured out of solid detached masses of stone, (No. 7): but as more elaborately finished and larger temples of the same description will be described hereafter, I shall not dwell on these smaller ones. I would now lead the reader back to the large stone before described as resting on the slope of the rock on the eastern side of the hill. (No. 3.)

Proceeding southerly from this stone you presently arrive at *a temple* fashioned out of the rock, (No. 8) and ornamented according to a style of architecture wholly different from that of this part of India in the present day. The top is elliptical, and bears considerable resemblance to the gothic style. The pillars which support a verandah on the western side, are I think similar to columns which I have seen in the sketches of Egyptian Ruins by M. Denon. This temple is 28 feet high, 20 feet long and 11 feet 6 inches broad. On the western face, at what may be called the foundation, there is a rent in the rock, which causes the temple to incline a little out of the perpendicular towards the south east. This handsome structure (if so it may be termed), has a verandah

and a niche, the latter containing an image of Ganésa, which blackened by smoke and ghee, is still an object of adoration to the people of the village. Their brahmans, I was told, propitiate the stone deity every Friday with lustrations of ghee and cocoa-nut oil, and certain rites and prayers. The inner wall of the verandah, south of the niche bears an inscription in the same kind of character as that hereafter noticed. According to Dr. Babington, (Transactions Royal Asiatic Society vol. 2, p. p. 265-6 and plate 14), this inscription consists of verses in praise of Siva.* I have stated that this temple contains an image of Ganésa, and as this is the second time that Ganésa has been mentioned, it may be right to state, who and what he is.

Colonel Moor, in his Hindu Pantheon, says—that Ganésa is the God of prudence and policy, and the reputed eldest son of Siva or Mahadeva and Parvati. He is represented with an elephant's head; generally with four hands, but sometimes with only two, and sometimes with six or eight. He is said to be propitiated by Hindus of all sects in the outset of any business: if a house is to be built, a book written, or a journey commenced, Ganésa is invoked.

It is very common for Hindu authors to give different versions of the same tale, and there are different accounts of the manner and cause of Ganésa's possession of an elephant's head. One relates that Vishnu and Ganésa fought, and that Ganésa would have been triumphant, but that Siva (his father!) cut off his head: whereat his mother Parvati, being very much distressed and offended, proceeded to revenge the act by performing such austerities as, had they continued, would have deranged the destinies of the universe. This alarmed the whole congregation of the Gods, who intreated Siva to restore Ganésa to life. He con-

* See Dr. Babington's translation of this inscription in the introductory notes. M.

sented to do so, but the severed head could not be found: it was determined therefore to place on the headless trunk, the cranium of the first animal they met with, which proved to be an elephant. There is another story to this effect, that Mahadeva and Parvati quarrelled; their quarrel was followed by a reconciliation; and their reconciliation by the birth of Ganésa. On this joyful occasion all the gods came to congratulate Parvati; but one of them, whose name I have forgotten, kept his eyes cast down and forebore to look up. The goddess observing this asked him the reason of it; when he told her that he was doomed to injure whomsoever he looked upon, and therefore would not venture to look on the child. Parvati would not believe that any injury could be done, and urged him to admire her beautiful Ganésa. But no sooner did he lift up his eyes, than the child's head vanished. This unexpected result astounded Parvati, who had no sooner recovered from her first surprise, than she gave such passionate vent to her feelings, that Vishnu, apprehensive of the consequences, flew to the banks of the Ganges, and brought thence the head of an elephant which he placed on Ganésa's shoulders.

Passing the north western front of the temple just described, and following the foot-path, which leads through a narrow acclivity, formed by rocks and bushes on either side, we come to *an excavation* with a very pretty frontage, on the left hand. (No. 9.) It is hewn in the side of the hill, is 22 feet long, 11 feet deep, and 10 feet 6 inches high. Of this excavation and of the imagery within it, plates are given in the 2nd Vol. of the Royal Asiatic Society's Transactions.

On the wall at the right hand, or south-west end, there is a group of figures representing the Váman-Avatára, or fifth incarnation of Vishnu, undertaken by him to punish pride and presumption. The story is this:

Mahabali, a prince who lived in the Tréta yuga, or the

second age, was so elated by his prosperity, that he omitted to perform the more essential sacrifices to the gods. This being highly offensive to them, Vishnu, determined to check so bad an example, became incarnate and assumed the form of a wretched Brahman dwarf. Mahabali was at that time in possession of the whole universe, having previously acquired this dominion in consequence of his signal piety, or punctual performance of certain austerities and rigorous acts of devotion. Vishnu, in the shape just mentioned, appeared before him, and asked as a boon so much of his wide possessions as he could pace in three steps. This the monarch readily undertook to grant, at the same time desiring him to ask something more worthy for a prince to bestow. The pretended Brahman however professed his content with what he had already requested, and the king proceeded to ratify his promise by pouring water into the petitioner's hand, which was, it would seem, the most solemn mode of confirming a grant. As he was doing this, the size of the dwarf grew larger, and continued to expand until it filled the whole earth. Vishnu then discovering himself, deprived Mahabali in two steps of earth and heaven; but in consideration of his previous virtue and general good conduct, he deprived him of no more, but left to his government the kingdom of Pàtàlam, a lower or inferior world said to be the abode of serpents. Some say that the water used in this transaction for the purpose of ratification, fell from Vishnu's hand on the head of Siva, and flowing thence, formed the origin of the Ganges.

Vishnu in this character is sometimes called "Trivik-rama," "the three step taker." In this sculpture he is represented eight-handed, and in the act of stepping prodigiously: the right foot is on the ground and the left is raised sideways as high as his head. It looks therefore, as it is, very unnatural, for the articulation of the head of the thigh bone in its socket would not admit of such a position. The subordinate figures

do not appear to illustrate the story, or at least the version above given of it. Perhaps another circumstance should be related, and the imagination may be allowed under some restriction to be the interpreter: but even then only a part of the figures seem to be connected with the tale.

It is said that Sucra, regent of the planet Venus and guru of the asurás, acting as mantri, or minister, of Mahabali, faithfully informed the king of the deceit that was being practiced upon him. There is a figure with a dog-like head speaking to another, who seems to rest his chin on his right hand in deep reflection. These two figures occupy the upper part of the sculpture on the left of Vishnu. Below them are two figures in human shape represented as falling. Perhaps the former may represent Sucra and Mahabali at the moment when the Prince was first made acquainted by his counsellor with the true character of the Dwarf, but was too proud to withdraw his royal pledge: and the latter the same after he had fallen from his high estate: or the two falling figures may imply that the two steps of Vishnu had deprived him of the dominion of heaven and earth. What the rest of the figures may illustrate I do not conjecture.

On the wall of the opposite or north-eastern end is a sculptured delineation in bas relief of the Varah avatara. Among the legendary stories of the Hindus, several different accounts are given of Vishnu's reasons for taking on himself this incarnation, and particularly why he assumed the shape of a boar. Among others it is said that a Daitya, or evil spirit, named Hiranyacsha, gained from Brahma by his scrupulous piety and the performance of penances of very great efficacy, a promise that he should have given to him any thing he asked. Accordingly he desired universal dominion, and exemption from being hurt by the bite or power of any living creature. He enumerated all animals and venomous reptiles, that bite or sting, except the boar which was forgotten. His ambitious desires were no sooner obtained than he became exceedingly

presumptuous, proud and wicked; and forgetting the great power of the gods, he ran away with the whole earth, and plunged it and himself into the depths of the sea! This singular exploit made the interposition of the preserving power necessary; and Vishnu changing himself into the form of a boar, plunged into the ocean; fought a dreadful battle which lasted a thousand years; at length slew the impious daitya; brought back the earth on his tusks, and restored it to its usual good order, peace and tranquillity.

The sculptures illustrative of the story appear to refer to a period subsequent to the battle, for the figures supply the imagination with the idea that the boar-headed deity is now solacing himself after the toils and dangers of his thousand years' conflict. The principal figure, Vishnu (four handed), is executed with considerable spirit. He stands firmly on the left leg. The right leg is raised and the foot rests on the head of another figure. On the right knee sits a female; Vishnu's left hand grasps the small part of her right leg, while his right hand passes behind her, a little lower than the waist, while he regards her with interesting pig-headed gravity. His two remaining hands hold a conch shell and the chakra*. Below Vishnu's right leg is the upper portion of a figure with the hands raised as in prayer, its lower part being immersed in what may be supposed a representation of the waves of the sea, (the rock being here very rough and unfinished. Another figure, rising out of this imaginary water, is also in a posture of supplication; and there are other accessaries but they do not appear to explain the story.

From the back wall of this excavated fane, is a projection measuring 7 feet 9 inches broad, and 3 feet 6 inches deep. It contains an empty niche, in which however may be traced the outlines of a deity, which the chisel of the workman has not brought into being. A flight of three small steps leads

* The chakra is a circular piece of metal, not unlike our discus or quoit. M.

into the niche, and on either side its entrance, as well as at each end formed by the projection, is a figure in bas relief, with the name, attributes, or office of which I am unacquainted.

Sculptured on the back wall between this niche and the north east end of the excavation, is a female figure, probably Devi or Parvati the consort of Siva, bathing. She is attended by her females and two elephants, one of which is pouring a vessel of water over her, and the other is receiving another vessel from the hands of one of her attendants.

On a similar space to the south of the niche is another female figure, which I take to be a representation of the same great personage; in this however I am not positive. On each side of the principal figures, are two bulky little fellows, and a fourth figure of a more natural size. There are also two heads of animals, one somewhat similar to an antelope's, the other intended perhaps for that of a tiger.

The front of this excavation is supported by two columns, and two pilasters of a handsome style of architecture. The ceiling is ornamented with flowery sculpture, but has several cracks in it running lengthways; *i. e.* in a north-east and south-westerly direction.

About eighty yards west of this place, on the top of the hill, may be found after a little research, the stone bed, with a lion for its pillow, which, in the account published in the Asiatic Researches already alluded to, is called the Dhermarâja's lion throne, (No. 10); and at a trifling distance S. W. of this, is the bath of Draupadi. The lion and bed measure in length 9 feet 6 inches, and in breadth 3 feet 6 inches; the lion is 18 inches high, and stretching across the south end appears as if intended for a seat or pillow. The bed lies due north and south, and is hewn out and fashioned on the surface of the solid rock. There is not the least appearance of the

place having once been an apartment of a palace, as intimated in that account: the top of the hill hereabout is indeed quite uneven and irregular, and abounds with immense blocks and masses of granite.

There is nothing more which merits notice on the surface of the hill, if we except numerous mortice holes, which may be seen running parallel to its western edge, and many small flights of steps cut in several parts of the rocks.

Leaving the top of the hill, and descending by the path in front of the temple last mentioned, at a few feet south east of the pagoda which contains the image of Ganesa, will be found sculptured in bas relief, on the eastern faces of two large rocks, the *story of the Tapasa* (No. 11) or intense penance of Arjuna. These two rocks adjoin each other, being divided only by a fissure. They measure 84 feet in length, and about 30 feet in height.

In this group of sculptures, the principal figure, that of Arjuna, is not the largest. He is seen on the left of the fissure in the posture of penance; his arms are raised above his head, his right leg is lifted up. He is supposed to stand on the great toe of his left foot. His arms and right leg appear withered, but his left leg is of the natural size. His chest and ribs are prominent, but the stomach and abdomen sunken; the whole figure representing emaciation from long fasting. Besides this figure there is a multitude of others both of men and animals; and among the latter two well proportioned elephants as large as life. The largest of them measures 17 feet from the proboscis to the tail, and 14 feet in height. The smaller is in height 10 feet, and in length 11. Under the belly of the larger elephant there is a small one, with the heads and trunks of two others, while the head of a fourth is seen between his proboscis and fore feet. These figures of elephants are cut on the right hand rock on a level with the ground. On the rock to the left, near the fissure, and below

the figure of Arjuna, is a neat little temple,* with a niche and a figure in it. Just within the fissure itself is a figure like that of the Mermaid, but in the native languages it has a name purporting half woman and half snake. Scattered over the face of both rocks there are many representations of men, ascetics, monkeys, lions (or what are meant for lions), tigers, antelopes, birds, satyrs and monstrous animals which it would puzzle a naturalist of the present age to nomenclate. The whole are executed with considerable spirit, and occupy a space of about 2400 square feet. A plate giving a representation of these sculptures is published in the 2d Vol. of the Transactions of the Royal Asiatic Society of Great Britain and Ireland.

The story of the penance of Arjuna may be told as follows: The five sons of Pándu rája lost their dominions in play with their cousin Duryódhana; who however played unfairly and won through "guile and wicked stratagem." The consequence was that they and their followers were banished for twelve years and upwards, and were doomed to wander in jungles, wilds and solitudes. During this period the elder brother took counsel with the others, how they might repossess themselves of their patrimony after the term of banishment had expired: and in order to attain this it appeared desirable to gain the *mantra* Pasupatástra. This mantra, or incantation, was of such wonderful efficacy, that if it was uttered while in the act of shooting an arrow, the arrow became inevitably destructive, and moreover possessed of the power of producing or generating other weapons, which not only scattered death on all sides, but were able to cause the destruction of the whole world. This mantra could be obtained only from the god Isvara, (a name of Siva); and

* At the South East corner of this little fane, in a sitting and stooping posture, and entirely detached from the rock, is an admirable figure of an ascetic, miserably emaciated, which though somewhat worn by exposure to the weather, bears evidence to the talent, skill, and anatomical knowledge of the Artist. M.

Arjuna, as he was distinguished among his brethren for his prudence, fortitude, and valor, was employed to procure it.

The hero of this story had to travel far to the north of the Himálaya mountains, there to perform austere and rigid penance in order to propitiate the god and obtain his favor: and as a preparatory measure, he was instructed in all requisite mantras and mystic ceremonies. On reaching the appointed place he found a delightful retreat; a grove or forest abounding with streams and fruits and flowers, with whatever could regale the senses or charm the eye. Not only was the earth most bountiful, but the air was filled with the strains of celestial melody. In this place Arjuna commenced and carried on his austerities by meditation, by prayer, and by ceremonial purification.

During the first month he ate but once in four days: during the second month, but once in seven days: during the third month, only once in fourteen days: and during the fourth month he did not eat at all, but completed his penance by standing on the tip of his great toe, the other leg being lifted from the ground, and his hands raised above his head. This is the period of the penance which the sculptor has selected for illustration, in the curious work now under notice. The figure of Arjuna is exhibited in a posture agreeing exactly with the story, the relation of which however it seems necessary to continue a little further, in order to explain the accessories, the figures of men and animals, with which the whole face of the rock is covered.

The nearest Rishis, (hermits or ascetics who by austerities and meditation may attain, as their object is, riches, power, supernatural arms, or beatitude), seeing the intense devotion of Arjuna, went and reported it to the god Isvara, who was highly gratified: but in order to try the constancy and courage of the hero, the deity assumed the form of a wild hunter. One of his accompanying attendants was transformed into a

wild boar, and Arjuna preparing to shoot it was interrupted by the unknown deity who forbade him to strike his game. Arjuna notwithstanding let fly a shaft, and so did the disguised hunter, and the boar fell lifeless. This occasioned an altercation, which brought on a personal combat; and when Arjuna had expended all his arrows on his antagonist without effect, he tore up rocks and mountains to hurl at him, but they too fell harmless at his feet. This so enraged our hero, that he attacked his foe hand to hand. Such was the daring audacity of this act, and the bold and determined courage of Arjuna, that all heaven was filled with surprise, and the beasts of the forest, and the inhabitants of the etherial regions, alike flocked to witness the contest, which was terminated by the god's revealing himself, and bestowing on his votary the boon he wished for, viz. the Pasupatástra.

This congregating of the inhabitants of the skies and of the forest, this mixture of men and brutes, makes probable the supposition that it is the second point or period of the story that has been selected by the Artist for exemplification, as instanced by the particular postures and variety of the figures seen in this curious carving.

Adjoining the sculptured imagery of Arjuna, to the south, are the wide beginnings of an excavation (No 12) having a front of 50 feet, and a depth at the north end of 40 feet and at the south end of 35 feet. A large portion of the solid rock projects from the back of the excavation 25 feet, with a frontage of 23 feet, leaving deep recesses on either side, in which stone has been left rough cut for three pillars. The front of this evcavation is supported by five octagonal columns,* whose bases are formed of figures of a grotesque horned animal: a sixth column originally existed, its base and capital still remain, but its shaft is removed. At a few feet within is a second row of six columns corresponding with those

* The capitals of these columns are not unlike those of some of the pillars of the Indra Subha at Ellora, and of the cave temples of Elephanta. M.

in front. The ground at the entrance is partly overgrown with bushes, and the cave now affords shelter to the village cattle.

A few yards south of this excavation, opposite to a street of the village is an open building, which from the sculptures it contains may very properly be denominated *Krishna's Choultry* (No. 13). These sculptures are executed on the back wall of the building, or rather that part of the solid hill which forms the back *wall.* They represent the exploit of *Krishna* supporting the mountain Goverdhana in order to shelter his followers from the wrath of Indra,—the god that darts the " swift blue bolt," the

> " Sprinkler of genial dews, and fruitful rains
> " Over hills and thirsty plains."

This action is fabled to have been performed by Krishna with one of his little fingers at the age of seven.

> " With one finger raised the vast Goverdhen ;
> " Beneath whose rocky burden,
> " On pastures dry, the maids and herdmen trod :
> " The Lord of thunder felt a mightier God."
>
> Sir W. Jones.

In the present sculpture the attitude of the God corresponds sufficiently with the story. He appears however to sustain the mountain with the palm of his left hand, instead of the little finger as in the poetical version. The only representation of the supported mountain consists of a rough line running above the whole of the figures. This line has been formed by cutting away as much of the rock as would answer the purpose of giving the requisite degree of relief for typifying, in the above manner, the rugged bottom of the mountain, torn up from its foundations, and sustained aloft in the air. The whole group looks clumsy ; the proportions are bad ; the countenances are destitute of expression ; and little praise is due to it either as a work of art or imagination. So singular a deliverance from sudden destruction ought to have

supplied the artist with a subject capable of being embodied with great spirit: but here, instead, is an inanimate, meaningless group, which, but for the principal figure, would not at all have interpreted the story. There are about twenty figures of men, women and children, and as many heads of cows or bullocks. There is one tolerable figure of a brahmany bull, and another of a cow licking its calf while in the act of being milked. It may be that the general quietude and repose of the figures are intended to imply their security from the terrible danger so recently, and still but for the god's interposition, impending over them. In another part of the sculpture is a figure playing on a flute or pipe; this may also represent Krishna, in his character of Murlidur, *the tuneful.* In this form he is called Balakrishna, and is said to have amused himself by piping to the swains and damsels of Goverdhen. This figure of Krishna is small and might be overlooked; it is situated over the hinder part of the cow and calf just mentioned. At the north end of this sculpture, raised 5 or 6 feet from the floor, is a well executed figure of a brahmany bull in full relief; and at the south end are several figures of beasts apparently intended for lions: one of them however resembles the Sphynx,* having a human face with a body of a quadruped.

Krishna's Choultry extends in front 47 feet; is 26 feet deep and 12 feet high. The roof is made of hewn stone, which is partially covered with earth; and is supported by three rows of columns, 4 in each. The bases of those in the front row consist of grotesque figures of a non-descript animal, sitting on its haunches, having curved horns, and a long tail which is curled upon its back like the figure 8.

On the hill above this Choultry is the *foundation of a rectangular building* (No 14) measuring 66 feet in length, and 42 in breadth. In the middle of this is a gateway 12 feet

* A similar figure is met with at Ellora. M.

wide, running east and west; and in the gateway are two recesses, each 12 feet square, one on each side. Near the corners of these recesses in the gateway there are four large square stone pillars, 16 feet high, 3 broad and 2 thick, with flowery ornaments. This foundation corresponds with *a similar one* (No. 15) about a hundred yards distant towards the east, in the plain below; and the two form nearly a straight line with a very ancient temple situated on the sea shore.

From the front of Krishna's Choultry, on looking towards the south west, may be seen on the top of the hill, a small *dilapidated building* (No. 16) quite in ruins.

Beneath this is an *excavation* in the side of the hill (No. 17) of a rectangular shape, measuring 25 feet long, 18 feet deep, and 10 feet 6 inches high. The front is adorned by two neatly finished pillars and two pilasters. At each end are imperfect traces and outlines of a group of figures; and on each side of the excavation in front is a neatly finished niche, 3 feet high, 3 feet deep and 2 feet 6 inches wide. In front of the whole is the skeleton of a verandah 48 feet long, 12 feet high and 12 feet wide. Steps are cut in the side of the hill, at one end of the verandah, by which there is an easy ascent to the top of it.

At a few yards distance to the eastward, is a stone bed, with an elevation at the north end of it for a seat or pillow. The bed is 7 feet 3 inches long, and 3 feet 9 inches broad, and the pillow is 10 inches high.

On the eastern face of the easternmost of the detached rocks near this place, may be seen another group of sculptures, representing the same story of Arjuna; but the figures are not so distinct as the former, nor equally numerous, and they appear to have suffered much more from the weather.

On the summit of the most southern eminence of the mountain is a *small ruined temple* of sculptured stone (No. 18) 22 feet in length, 16 feet in breadth, and 16 in height. Its foundation which is of brick, measures 30 feet by 26. There is no regular access to it: the roof has fallen in, and the temple is partially covered by an old banyan tree. There is a fine open view of the surrounding country from the top of its walls.

Directly beneath, and cut into the same rock on which this little fane is built, is an excavated temple (No. 19) 33 feet long, 13 feet high and 17 feet deep. In front are four columns, (one of which is broken), and pilasters at each end. The excavation contains three niches, of which the centre one is the principal; it has a sort of portal before it, and contains a group of figures representing Mahadeva, Parvati, their infant son Subrahmanya, five other figures and a bull, (Nandi). The bull is in front of the principal figures, and on its back rests one of the feet of Mahadeva, and one of those of Parvati. In the floor of this principal niche is a circular trench, 4 feet 6 inches in diameter, and about 3 inches deep, in the centre of which is a circular hole 16 inches in diameter, intended probably for the reception of a lingam. The other niches contain no sculptures. The portal before the centre niche projects from the back wall 8 feet 6 inches, and has a frontage of 11 feet. The front of this is sustained by two sculptured columns, and it has pilasters where it joins the wall.

This excavation however is chiefly remarkable for the sculptures executed on its side walls. These represent, the one, one of Vishnu's states of existence, and the other a celebrated conflict between Durga and Mahishasura.

I shall first speak of that on the south-western side representing Vishnu. Previously however it will be necessary to observe that considerable uncertainty attaches to Nârâyana, or

the state or mode of being in which Vishnu here appears. Hindu Mythology sometimes speaks of it as a mode of existence of Brahma, sometimes of Siva, and sometimes of Vishnu in the act of willing the creation. Under this character Vishnu is represented lying on the lotus, as well as on the thousand-headed serpent Sesha.

The sculpture now spoken of is in bas-relief, and measures 13 feet in length, and 8 in height. The figure of Vishnu is 9 feet 6 inches long, recumbent on the snake Sesha, which is ingeniously coiled for his support in several convolutions, forming together a couch 3 feet high from the base; while five of its heads, (as many as could well be introduced,) form a kind of canopy over the head of the supposed deity.* Above the god are two small figures, male and female; below him in front in a kneeling posture, three; and at his feet erect, two. All these but the last are diminutive; but the two at his feet are seven feet high, and one of them grasps a club. The village brahmans say that two of the figures in front represent cow keepers, who had been ill-used by Mahishasura. These cow keepers (husband and wife) had come to complain to Vishnu. Before they did so however they had inquired of the third figure, said to be a "Shastrum Currah," or sorcerer, as to the precise time when they might have a propitious opportunity. That while they were making the inquiry, one of the attendants of Mahishasura, the figure bearing the club,

* This representation of Vishnu must be very similar to the following. "Hari is one "of the titles of Vishnu, the deity in his preserving quality. Nearly opposite Sultan "Ganj, a considerable town in the province of Bahar, there stands a rock of granite, "forming a small island in the Ganges, known to Europeans by the name of the Rock "Jehangiri, which is highly worthy of the traveller's notice for a vast number of images, "carved in relief upon every part of its surface. Among the rest there is Hari, of a "gigantic size, recumbent on a coiled serpent, whose heads, which are numerous, the "artist has contrived to spread into a canopy over the sleeping god: and from each of "its mouths issues a forked tongue, seeming to threaten instant death to any whom "rashness might prompt to disturb him. The whole lies almost clear of the block on "which it is hewn. It is finely imagined and executed with great skill. The Hindoos "are taught to believe, that at the end of every Calpa (creation), all things are absorbed "into the deity, and that in the interval of another creation, he reposeth himself upon "the Serpent Sesha (duration)."—*Wilkins' Hitopadesa.* B.

came to carry them to his master, to punish them for daring to appeal to Vishnu. The other figure at the feet of Vishnu hereupon interposed, and being one of Vishnu's attendants, drove from his master's presence, the presumptuous servant of the wicked Mahishasura. The expression and postures of the figures do certainly seem to correspond with the story; but the tale itself suits ill the position and circumstances of Vishnu Narayan, which no doubt is represented in this sculpture.

The sculptures on the opposite or north eastern end of the temple, represent the conflict between Durga, (a personification* of active, not passive, virtue), and Mahishasura, (a personification of wickedness.) These figures merit particular description.

The recess in which they are sculptured is 12 feet 9 inches long, and 8 feet high. To the left is seen Durga, mounted on what is intended for a fierce lion. To the right is Mahishasura grasping a short thick club. The figure of Durga is 5 feet high and eight handed: two of her arms have greater relief than the others, a circumstance which imparts to the figure a much greater appearance of truth and nature than would otherwise be the case. The left principal arm is stretched at full length, and the hand grasps a bow: the right arm is drawn back, as if in the act of discharging an arrow: but we see neither the arrow nor the string of the bow. Her six remaining hands hold respectively, on the left, a bell, a chank, and something not easily distinguishable; and on the right, the fatal cord, (*pasha,*) a chakra, (*discus*), and a sword. Mahisha-

* "The *Devatas* are represented as good beings, the *Asuras* as evil ones, in so far "only as there is any countenance to the fiction of *personified virtue* and *vice*. That "fiction is European. All that I have ever read makes the *Asuras* blameable because of "acquired *power;* and power is subdued by superior skill or force. In some instances "the *Asuras* are described as cheated, injured, oppressed, rebelling in consequence, "and then subdued and destroyed. The story of Durga and Mahishasura is the sub-"ject of the *Chandi pát'h* of the Scanda purana; and is the great occasion of celebra-"tion at Calcutta in the *Durga puja* feast, which is anything but virtuous." W. T.

sura is represented with a buffalo's head and horns and a human body. He stands in a retiring attitude, resting on his left foot, the right being advanced. His figure measures 7 feet 9 inches, not perpendicularly, but according to the posture in which he stands. Above, below and behind Durga, may be seen her attendant warriors, armed with swords and bucklers: and also two domestics, one with a switch of hair, such as horsekeepers use, the other with a kittisal (or umbrella). Mahishasura has a similar attendant also. Durga's attendants are all dwarfish, corpulent figures; those of Mahishasura seem of more natural proportions. Durga appears the assailant, Mahishasura on the defensive. Of three figures between the two principal personages, two are in active conflict, and the third is falling headlong. One between the legs of Mahishasura seems to have fallen; and another of the same party supports himself on his left hand, two fingers of the right being held up to indicate discomfiture and alarm. The whole group is executed with much skill and ability, and evinces the talent of the artist. The figure of Durga in particular is represented with much spirit, and is graceful and easy. The following from a paper by Mr. Wilkins in the 1st Vol. of the Asiatic Researches, serves to illustrate the story. "The evil "spirit Mahishasura, in the disguise of a *buffalo* as the name "imports, had fought with Indra and his celestial bands for "a hundred years, defeated him and usurped his throne: the "story is to be found at length in a little book called Chandi. "The vanquished spirits being banished the heavens, and "doomed to wander the earth, after a while assemble, and resolve to lay their grievances before Vishnu and Siva. Con- "ducted by Brahma they repaired into the presence of those "deities, who heard their complaint with compassion, and their "anger was so violent against Mahishasura, that a kind of flame "issued from their mouths, and from the mouths of the rest of "the principal gods, of which was formed a goddess of inex- "pressible beauty with ten arms, and each hand holding a dif- "ferent weapon. This was a transfiguration of Bhavani, the

" consort of Siva, under which she is generally called Durga. " She is sent against the usurper. She mounts her Lion, the " gift of the mountain Himâlya (snowy), and attacks the mon- " ster, who shifts his form repeatedly : till at length the god- " dess planteth her foot upon his head, and cuts it off with a " single stroke of her sword. Immediately the upper part of " a human body issues through the neck of the headless buf- " falo, and aims a stroke, which being warded off by the Lion " with his right paw, Durga puts an end to the combat, by " piercing him through the heart with a spear." The reader will observe that the latter part of this story does not correspond entirely with the sculpture just described, but this must not surprise us, for the Hindu Poets, Sculptors, and Painters, seem to claim the license of representing the same action in a thousand different ways, and under a thousand different versions.

I am tempted here to transcribe the following lines written by Sir William Jones, in reference to this subject.

" * O Durga ! thou hast deigned to shield
" Man's feeble virtue with celestial might,
" Gliding from yon jasper field ;
" And on a Lion borne, hast braved the fight :
" For when the demon Vice thy realms defied,
" And armed with death each golden horn ;
" Thy golden lance, O Goddess ! mountain born,
" Touch'd but the pest ;—he roared and died."

Marks of the workman's chisel may be seen on a large block of granite, opposite the front of this excavation ; and also at a few yards to the north-east of it, on a rough hewn stone, intended for a bed, with an elevation at one end for a pillow. The bed measures 10 feet 6 inches by 4 feet 9 inches : the pillow is 2 feet broad and 12 inches high. There are two small steps at the foot of the bed.

* It is now almost universally admitted that Sir W. Jones sullied his great talents by writing hymns to Hindu gods. They all borrow scriptural or classical ideas, and paint the personifications of India with colors not their own. The leading idea in these lines is not Hindu, but European. W. T.

On some of the rocks between this place and Krishna's Choultry may be seen the rude commencement of several designs, which have been abandoned. Amongst them, however, is a finished excavation 21 feet long, 17 deep and 9 high. The roof is sustained by 4 strong pillars. There are three niches in this excavation, with the outlines of a figure on each side of the centre niche. There is also a long inscription on the south west end, now almost illegible.

About a mile to the south of the village in a small palmira tope is a cluster of monolithic temples. It consists of five*, each differing from the rest in shape and dimensions, and each fashioned out of a detached solid mass of rock.

The first I shall notice stands a little to the west of the others, (No. 20), and is in shape similar to a horse-shoe. It is a neat piece of sculpture 18 feet in length, 11 feet in width and about 16 feet in height. At the south end, that which is right angled, is a roughly hewn niche, and a portal with two pillars.

The four other temples lie nearly in a straight line; but before describing them I would notice an image of a Lion† and another of an Elephant, both as large as life, which stand between this small temple and the other four. That of the Lion is cracked. It measures in length 7 feet, and round the neck 8 feet: it is sunk in the earth about knee deep; nevertheless it has a noble appearance and its body is well proportioned. The Elephant measures 14 feet in length and 12 feet in height. Its circumference in the largest part of its body is about 20 feet: round its head and throat 14 feet; and round the largest part of the proboscis 7 feet. It appears somewhat unfinished, and is sunk a little in the earth.

* At a second visit to the place I understood that the Sculptor's idea was the construction of five dwellings for the five Pandanas. W. T.

† Lion, the symbol of kingly power: Elephant—that of great prosperity; and in particular the vehicle of Indra. W. T.

On the eastern side of the temples, near the most northern one, is a colossal Brahmany Bull, (Nandi, the vehicle of Siva.) Its head and neck only appear above ground: the length of the former being 4 feet, and the distance between the roots of the horns 3 feet 3 inches.

Of the temples, the most northern (No. 21) is a neat little structure about 16 or 18 feet high and 11 feet square. The top diminishes on all sides by a parabolic curve, till it ends in a ridge 3 or 4 feet long. It has a niche on the western side, in which is a group of figures said to represent Draupadi, the wife of Dherma-raja. My own idea is that it represents one of the consorts of Vishnu or Siva. A female figure is also sculptured on each side of the entrance to the niche.

The temple next to this (No. 22) towards the South is of a pyramidal shape, and covered with ornamental sculpture. It is about 11 feet in front, 16 in depth and 20 in height. It is much cracked, has a niche on the same face as the last, but there are no figures within.

The largest temple in the group (No. 23) stands next in order;* it was abandoned before the design was completed and remains in an unfinished state. Across the middle there is a large rent, in some parts 3 or 4 inches wide; this has divided the body of the temple, and caused the separation of a large piece of the solid stone on the western side about the centre of the verandah. Another large piece has fallen from the south western corner. Unfinished excavated verandahs exist round the lower part: and above them, on the outside, the body of the temple diminishes in width and length, so as to leave sufficient space to walk round it. The verandah on

* Mr. Braddock has by an oversight omitted to give the measurements of this temple, I therefore supply them from Mr. Goldingham's account; although I must here observe that in other measurements as given by them respectively I find some trifling discrepancy. Mr. Goldingham's says that the temple measures 49 feet by 25 feet, and 35 feet in height. M.

the south eastern or Sea face of the temple is almost choked up with sand; but that on the opposite face retains its original height, and in it a large block of the solid stone projects from the back wall. The roof or top of this temple is elliptical, and the general design is beautiful and elegant.

The last and most southern temple of the group (No. 24) is of a pyramidal shape: its base measures 28 feet by 27 and it is 34 feet in height. It is neatly finished and much ornamented. In the two upper stories on the north western face are niches; and on the ground story of the same face is a portal with four pillars, projecting from the body of the temple 4 feet. Besides the ornaments which it possesses in common with the rest, this temple has a profusion of figures of various sizes, representing Vishnu and Siva, in some of the many different characters which they sustain in the mythology of the natives. These figures are carved in recesses corresponding with their size; and over the majority of them are inscriptions, of which and of the figures, lithographed sketches may be seen in the transactions of the Royal Asiatic Society before alluded to.

About 3 miles to the north of the village, on the sea shore, are several granite rocks, one of which inclining to the eastward projects about 40 feet above the surface like a huge pillar. On another are sculptured various figures representing heads of fierce horned animals, of the precise appearance of which it would be difficult to give a written description. Returning towards the village, about half a mile north of the village choultry, we meet with a small temple built of hewn stone, and resembling in its ornaments those already described. The entrance is nearly filled with sand, and the walls are much dilapidated by trees which grow out of them. There is nothing, I believe, inside.

The last of these ancient remains to be described, are two

temples (No. 26) built eastward from the village close to the sea shore. They are indeed so near the sea that the surf dashes against the foundations of them. They occupy a space of about 1600 square feet and are becoming ruinous. They adjoin each other, being in some sense but one piece of building; but the existence of their two spires impresses one with an idea of their being two separate temples. The more lofty structure I imagine to be about 60 feet high. This is the most eastern of the two, and has, overlooking the sea, a doorway 7 feet 6 inches high and 6 feet wide. Within this temple will be found a large broken black granite Lingam, and a group of sculptures representing Mahadeva, Parvati and their son Kartikeya or Subrahmanya. The smaller temple contains a similar group of figures. The body of the large temple is inclosed with a massive stone wall, which as well as the temple itself bears the appearance of having been decorated with much ornamented sculpture. Small pieces of chunam still adhering to the ornaments give rise to the conjecture that the temples were either originally coated with it, or have been so covered in subsequent repairs. There can, I think, be no doubt that they were once elegant specimens of architecture; though they are now too much decayed to retain many traces of their original beauty. The mineralogist might possibly form some idea of their age from an inspection of the several species of granite of which the walls are composed. Some kinds of this rock, it is known, are much more liable to decomposition than others, (gneiss especially); and the fact is here evident; some of the stones are very much decayed, while others appear as sound as on the day they were hewn. In a kind of passage of the larger temple is a large mutilated statue of Vishnu, now lying supine.

These temples were formerly surrounded by an outer stone wall, part of which only is now standing. Two pillars also remain shewing the position of the western gateway

Huge heaps of granite stones, on several of which are sculptured figures, lie in front and on each side of the eastern temple, and have tended greatly to protect it from the hostility of the sea, which has evidently encroached considerably. Many of these stones are of large dimensions, measuring from 6 to 10 feet long, 3 feet wide and 1 foot thick; and on some of them are appearances of sculptured architectural ornaments, though the injuries of the weather, the action of the water, and the lapse of time have combined to deface them. About 65 feet in front of the eastern temple, and now standing in the sea, is a square stone pillar, (a common appendage I believe to all the country pagodas), which measures 11 feet in height and is 22 inches square.

At a few yards north of the temples, on a detached rock (No. 27) close by the sea, may be observed a gigantic figure of Mahishasura represented with the head of a buffalo. On a similar detached rock to the south are figures of a horse and an elephant's head (No. 28). These sculptures are considerably worn by the continual washing and action of the surf.

There is no doubt in my mind that the sea has made considerable encroachments since the erection of these temples. I cannot conceive, were it not so, why they should have been built on the shore, so close to the sea that the surf in the calmest weather dashes against the doorway; while some of the well known appendages of such pagodas are actually at some distance in the waters. The large quantities of stones lying about the temple, and others which partially appear buried in the sea, seem even to indicate that other buildings also have existed to the eastward of these, which are now destroyed and overwhelmed by the ocean.

I have now given an account of all the curious sculptures and buildings which came under my observation at three se-

veral visits to the Seven Pagodas, and I believe I have omitted nothing which merits notice. I am fully aware that the account is imperfect: indeed I hold it impossible to convey a correct idea of the remains of former ages by a written description, even if the account be perfectly accurate. Who could by such means form a just conception of the actual appearance of the ruins of ancient Persepolis, of Tadmor in the desert, of Pompeii, of the various temples in Italy, and the remains of classic elegance in Greece and the Isles of the Ægean Sea? We may indeed read of pillars, colonades, porticoes, rooms, baths, apartments, and a long list of architectural definitions; but after all, the mind possesses but an imperfect image of the originals. Pictures and drawings help the description, but personal inspection is best of all. I therefore advise you, "gentle reader," if you have it in your power, to visit these singular vestiges of antiquity at Mamallaipur. I can promise you ample recompense for your trouble. If you have antiquarian curiosity, you may here satisfy it. If you have any disposition to moralise,—as a christian should do,—on the end of human greatness, you will see that though here it has been attempted to "grave it in the rock for ever," it still passes away; and you will turn your thoughts from these, amongst the most durable perhaps of mortal productions, to that heavenly city which is indeed eternal.

Remarks by the Rev. W. Taylor.

The author of the foregoing paper having done me the honor of transmitting it to me for perusal and remark; and the few cursory observations made having called forth a fuller explanation of his wishes,—although I do not think myself fully able to meet them, –I offer the few following observations on the locality which is the subject of his interesting illustrations.

I. The Name. This the people of the neighbourhood colloquially term *Mávalivaram.* It is also known to natives as *Mabalipuram*, whence I presume, it became expanded (by Mr. Goldingham if I remember aright) into *Mahabalipuram.* More recently I observe Dr. Babington has made it *Mahámalaipur*, "the town of the great" (or as Dr. Babington understands it, sacred) "hill." If the said reading be actually borne out by the old Tamil inscription near one of the caves, I must submit; but without copy, or fac-simile, the accuracy of the reading may be open to doubt. There is considerable reason (*a*) to believe that the true reading is *Mámallapuram;* and the true reading is of consequence.

Malla is a northern patronymic, or rather titular name of a race, like Cæsar, or the Medicis, or the Bourbons. In local papers of the Mackenzie collections, obscure but numerous indications are given of a race of chieftains bearing that surname; of whom *Deva-Malla-raya* is most frequently mentioned. This chieftain was a (Peninsular) highlander in origin; not, properly speaking, Hindu, but of an aboriginal

(*a*) According to legendary tradition one named *Mallésudu* ruled in early times. He seems not to have been a *Hindu*, as he mocked a Brahman, and was metamorphosed into an alligator. An appearance of Vishnu is said to have occurred. Before that appearance the place was called *Mallapuri* and *Mallapuri-cshetram*, from the above *Mallésudu.* Mackenzie M. S. S. Book No. 33 C. M. 787. Sect. 9. This paper is in the Telugu language.

race. Now *Deva-malla-raya* indicates dignity and lineage: of which title *Mà-malla-rája,* would be almost an equivalent; indicating indeed a lower rank, but quite suited as a distinctive epithet of a minor offset from the parent stem. Again in the Mackenzie local papers, there is abundant evidence of a gradual progress of colonization by Telugu people, from proximity to the Godavery southwards, at least as far as Nellore; and various instances (*b*) occur in which those who first cleared forest land and began to build a town, gave their own names to the town so formed. I would not assert it as a fact, but I regard it as a probable inference, that the locality, in immediate question, derived its name from its founder, an offset, or junior branch, of the *Malla* chieftains in the north. I would not leave the name without noticing that in a modern Tamil poem written in the south, mention is made of the king of *Mavalivanam*: but whether this place be designated or not, is doubtful; and I do not think such an authority could be trusted.—Quitting the name of the place we may further advert to

II. The antiquity, or probable antiquity, of the sculptures. That the antiquity is not very great may be concluded by inferential deductions; as 1.) The mythology of the figures is Hindu; the general story, part of that contained in the *Mahabharata*; the language of the inscriptions, at least in some places, Sanscrit: therefore Brahmans were some way concerned. But there is much concurring evidence to shew

(*b*) Subsequent to Sal. Sac. 424, or A. D. 502, a person named *Mahimalu,* or *Mavàlamu,* left his native place owing to oppression; emigrated southerly, and built a village of four or five mud huts. It was called after the founder *Mavamalur.* It increased; and by a separation of brothers at a later date *Nandi-varam* was founded, ultimately a town of note. Ibid. Book 49 C. M. 739.

This is merely an illustration. From a yet unpublished abstract of another paper, I find that two persons named *Malla-raya* and *Annama-deva-raya,* emigrated from *Vijayanagaram* to the district of Arcot, or neighbourhood of Conjeveram, and obtained some immunities from the wife, or queen, of *Deva-rayer.* These people were of the tribe of athletæ, proceeding from the original stock of mountaineers. I cannot identify these persons with *Mámalla-puri.* At a period later than *Crishna-rayer,* there were four avenues leading from Conjeveram to distinguished towns, one of which was *Mahabalipuram,* then reputed to be of *Vaishnava* credence.

that the first immigration of Brahmans to the Peninsula was not of remote antiquity. Besides which consideration, 2.) It is beyond doubt that before the time of *Kulóttunga Cholan*, and his illegitimate son *Adondai*, the whole district bounded on the north by the *Pennãr*, on the south by the *Pálàr*, on the east by the sea, and on the west by the ghâts, was dwelt in by half civilized people termed *Curumbar*, who had embraced the *Jaina* religion, brought to them from the north. *Adondai* chiefly distinguished *Cánchi-puram (Conjeveram)* and *Tripeti*, as his places of residence, or capitals. The era of *Adondai* is not higher up than the seventh century of our reckoning. He is said to have brought the Brahmans from *Sri Sailam* in *Telingana*, and certainly attracted a large colony of *Sudra Velazhas*, or agriculturists, from *Tuluva* or northern *Canara*. Soon after him the kingdom, which he acquired by the sword, was broken up into petty principalities, and lapsed into a state of partial anarchy. As we can distinctly trace the founding of Vellore to a period later than *Adondai*, and to colonization led on by a northern chief, so about the same period, I am inclined to think, the neighbourhood of *Mavalivaram* was colonized from the north, by one of the *Malla* family with his clan. Besides 3.) The Inscriptions are in too perfect a state of preservation to be of remote date. As far as my knowledge extends, inscriptions, with a defined year, have not been met with, in a legible state, higher up than the tenth century. I am aware of one or two *apparent* instances of much higher date, but with the absence of any precise year: hence inconclusive. Fragments of inscriptions in the *Pandiya* kingdom, (the oldest one in the south,) have I believe generally been so worn as to be incapable of connected transcription. But the appearance of the chiselling at *Mavalivaram*, (from the distant recollection of about fifteen years), is such that it would tax my credulity greatly to assign them a more distant date than from three to five hundred years.

If then we inquire into

III. The origin, or probable origin, of the place with its sculptures, my own judgment would lead me to fix the possible origin of the settlement at *Mavalivaram* to a colonist family of the *Malla* tribe ; subsequent to the rule of *Adondai*, and previous to the ascendancy of the *Vijayanagaram* ascendancy in the present Carnatic ; that is, (loosely stated), between the twelfth and sixteenth centuries of our reckoning. In this opinion I am guided by analogy. The *Bhonju* family, in that manner, spread itself in a district ; afterwards subject to the *Gajapati* princes of Orissa. The *Malla* family, from wild mountaineers, became powerful chieftains in *Telingana*. Many families, in that way, made subordinate settlements in different village districts of the same country ; and, about the period above indicated, some heads of families emigrated from the *Carnataca-désam* proper, and became local chieftains ; while many others at a later period, and from different causes, followed a like course. But if I am right in this inference by analogy, it does not follow that a settlement, made in a before pastoral, or waste country, would at once become a place of power or consequence. The same mode of argument would suggest the need of some centuries, in order to produce such a result ; and we know that many mutations occur in such kind of states, when near powerful neighbours. Accordingly though the name of the founder may have continued, yet, the conquest of the South, began by *Crishna-rayer* of *Vijayanagaram*, and completed by *Achyuta-rayer*, probably (*c*) overwhelmed any such principality. Such was the case with the

(*c*) In my abstract of the Tamil manuscript entitled *Carnataca-rajakal*, I do not find definite mention of such a supercession : but I think it probable from the general conquest of the neighbourhood ; and suppose the district became subject to the local metropolis of Gingee. In the paper referred to (note *a*) it is stated that *Sinhama-nayduα* of the *Vellugativaru* race ruled at *Mavalivaram*, and employed many artificers, who resorted thither in a time of famine, in making excavations and sculptures on the hill. Following out this indication, I observe that *Yáchama-nayadu* and *Sinhama-nayadu* of that race fought a great battle and gained a victory over opposing chiefs in Sal, Sac. 1523 (A. D. 1601). By that time the power of the *Vijayanagaram* sovereigns was broken : and it said the Mahomedans were concerned in the affair, in connexion with Gingee and Vellore. The scene of combat was Ootramaloor. This period would mark another

before local powers at Gingee, and at Tanjore. In those places military commanders became viceroys, and their descendants, kings. And I think it probable that a chief of this latter origin from Carnataca proper, (borrowing the idea from Ellore), had the excavations and sculptures made, and the inscriptions recorded; especially those in the *Hala Canada* character and Sanscrit language: of parts of one (*d*) of which Dr. Babington has given a copy and translation. If this inference approximate to truth, the works alluded to must have been accomplished in the sixteenth or seventeenth century.

These cursory remarks may be concluded with

IV. Miscellaneous observations; chiefly suggested by Dr. Babington's paper in the 2d vol: of Transactions of the Royal Asiatic Society; the latest essay on the subject of which I have any knowledge. The value of that paper seems principally to be in the plates, from drawings and inscriptions, and especially in the deciphering and translation of the latter. They prove, (as such inscriptions usually prove) very unsatisfying: for this reason perhaps, that the objects in the mind of the recorder, and in that of the archæologist, are entirely different. Of the six inscriptions at this place, to be found in a volume of the Mackenzie M. S. S., five are of unimportant donations, (including, if I mistake not, the Tamil one men-

change of power superceding the supposed, or rather inferred authority of the viceroys from *Vijayanagaram*. And if *Sinhama-nayadu* subsequently employed stone-cutters in the sculptures, then we have the period fixed to the seventeenth century. It is not however absolutely necessary to suppose that all the works were begun by the same chief, or finished (in so far as finished) by the same hands.

(*d*) In that incomplete inscription on the "small monolithic pagoda," neither date nor proper name of the king or chief appears. *Kàma ràja* is a mere epithet, and the other name appears to me strange and quite unusual if applied to the ruler. I throw out the conjecture that *Jayarána* is a Sanscrit word modified into Tamil. *Stambha* is pure Sanscrit for a post, column, or pillar. *Jaya-stambha* is of frequent usage for a triumphal column, or pillar of victory. I would render *Jayarána Stambha* by "the pillar of the victorious one," without however insisting on being right, because the construction is a little forced; and merely add that possibly *Sinhama-nayadu* may have had the pillar and the inscription cut to commemorate the victory at Octramaloor: still however prefering the opinion before given.

tioned by Dr. Babington;) and one which is of larger import, has only the name of *Deva-rayer* (*e*) as a clue to the date. Now this might be *Achyuta-deva-rayer*, who was very liberal to Conjeveram: or some one later, even a local chieftain; but not, I conceive, any one of the *Vijayanagaram* dynasty higher up than *Achyuta-rayer*.

The paper by Dr. Babington appears to me to contain some minor inaccuracies, (*f*) on which it might be trifling, or invidious, to dwell; but the supposition that the place was merely an *Agrahàram*, and that Brahmans procured the sculptures to be made at their own cost,—with the more astounding denial, that the Sea has encroached on the coast of Coromandel, are not of trifling import. As to the first, it contradicts all known experience, in so far only as relates to Brahmans laying out funds at their own entire control, on such sort of works. The second is a point of greater magnitude. I regard the

(*e*) Connecting this note with note (*b*), I think the same *Deva-rayer* may be meant, but am not certain. There was only one (I believe) of the older *Vijayanagaram* dynasty that bore that name without any prefix. He ruled about Sal: Sac: 1334, or A. D. 1412. In these dates I follow one M. S. authority, without deciding that it is the best. A list with different dates may be seen in Mr. Campbell's Telugu grammar; in which also instead of simply *Deva-raya* we read *Ganda-Deva-raya*. But after *Crishna-deva-rayer* all of the second dynasty bore it, with a distinctive prefix. Probability inclines to the latter period, between S. S. 1451 and 1508, or A.D. 1529 and 1586. Nevertheless it must not be forgotten that about A. D. 1400 the power of the *rayer* has been traced at Trichinopoly and Madura. in the person of a general named *Campanra-udiyár*, who annihilated the remains of the first Mahomedan incursion to the Southward. The state of the modern Carnatic was however too unsettled to permit the supposition of the first *Deva-rayer* making grants or donations within its boundaries.

(*f*) It is not my wish to be very particular: however the statement by Dr. Babington that "the copper and stone inscriptions found———in many parts of the country, are all in the Sanscrit language," does not agree with the mention made by himself of a Tamil inscription in or near the *Varáha-mandapa;* nor with the recent discovery of some, as is stated, *Páli* inscriptions in the north. But keeping within the limits of the peninsula, the interests of truth require me to state with entire respect, while touching on the subject, that the Mackenzie papers contain many hundred *copies* of inscriptions in Canarese, Telugu, Malayalam and Tamil; many of which I have examined, and can attest that, though copies, they are not translations. It is not an unfrequent case to find inscriptions with florid Sanscrit *Slocas* at the beginning or end, with the real matter of fact in plainer prose of the vernacular language. The undeciphered part of the inscription given by Dr. Babington requires further attention, for its present obscurity may involve some such humbler termination.

few data on which the denial of any encroachment of the Sea is founded, as quite inconclusive; though this does not seem to be the place for their discussion, nor yet for the statement of contrary facts and arguments. It is a point on which I apprehend Dr. Babington to be at issue with truth: but beyond this mere expression of an opinion, it does not seem important further to pursue the subject, in these very cursory annotations.

Having had an opportunity of reading over these remarks after an interval of more than a year and a half, and having seen, in the interim, copies of two inscriptions from the neighbourhood of Mavalivaram, in the Tamil language and old Tamil character, I find that the spelling therein is *Mà-mallaipur,* with two *l's.* The language is not the pure old Tamil; but the orthography is so generally correct, that the two *l's* cannot be an orthographical error; and if not, then the word does not mean *hill.* The language is comparatively modern Tamil; being much mixed with Sanscrit derivatives, which is not the case with very old Tamil. The name of *Deva-raya* appears; and an opinion seems to have been formed that it meant a *Chola* king. I cannot positively deny such an inference; nor yet another inference that similarity of character in neighbouring inscriptions, must argue identity of origin. The subject is confessedly open to variation of opinion; and inquiry would seem to be requisite before a decision can be positively made.

Supplement by Walter Elliot Esq.

Besides the objects of interest usually visited at the Seven Pagodas, there is a spot about two miles north of Mahamalleipur, the sculptures and inscriptions at which will be found not unworthy of attention. Proceeding along the sea shore towards Madras, at the distance above mentioned, a quadrangular space inclosed by mounds of considerable extent, No. 31 in the map, called by the fishermen *Devanári*, will be observed. From the appearance of these mounds, added to the fact that numerous copper coins, glass-beads, and bits of Iron, copper, &c. are picked up after heavy rain or high winds on their surface, it might be supposed that they indicated the site of some ancient edifice or fortification: but an excavation made in 1840, completely thro' one side, failed to elicit any discovery in support of such an opinion. The section was carried, through pure sand, to a depth of 20 feet, and the only extraneous substances met with were some pieces of charcoal, at different depths.

About quarter of a mile farther, near a collection of fishermens' huts, called *Sálván-cuppam*, are some remarkable rocks, standing a considerable height above the beach, and known by the name of *Idian Padal*. One of these exhibits a niche or pannel, surmounted by an arched border composed of the heads of the Sinha, or fabulous lion of Hindu mythology, carved in relief; while another has been rough-hewn into the outline of the same animal. Beyond this is a Stone *Mantapam*, or temple, almost entirely buried in the sand. Within is a Lingam. This is the site of the inscriptions referred to by Dr. Babington, in the 2d Vol. of the Transactions of the Royal Asiatic Society, as having been sent to him by Col. DeHavilland. Of these Nos. 1 and 2 of plate 15, pronounced by Dr. Babington to be identical, are engraved on the end walls of the Mantapam on either hand of the entrance. On the frieze above the entrance likewise, occurs the word, in each of the two characters deciphered by Dr. Babington,

"ATIRANACHANDAPALLAVA."

At a little distance to the North west of this temple, on a flat stone, (No. 32 in the map), level with the surface, occurs the following in old Tamil characters :

ஸ்வ ஸ்தி ஸ்ரீ இசசகதலதமானர்க்கு மதிதவிட்டாகு மாப்பட் டியில்திருவமிதிக்கு இருமாநிலமும்திருவிளக்குக்குகழஞ்சுபொன்னும் குடுத்தது.

" Salutation! two Mas[1] of land in Mapatti[2] for a sufficient daily meat " offering, and a Kalanji[3] of gold for maintaining a lamp, are granted to " IJJAGATALA[4] TAMANAR."

About 100 yards north of the Mantapam is a mass of natural rock, (No. 33 in the map), one end of which is covered with a long inscription in ancient Tamil. The character, as well as that on the flat stone just mentioned, is quite different from those above alluded to ; but corresponds with the one first described in Dr. Babington's paper, as " seen on a face of rock by the side of the inner entrance to the Varahaswami pagoda"[5] on the south side of the hill at Mahamalleipur, and of which an alphabet is given in plate 13. The greater portion is buried in the sand; but in 1840 this was cleared away, and a transcript of the whole carefully made, of which the following is a translation. The original in modern characters is given at the end of this article ; (marked A.)

" Salutation!

" In the presence of TIRUVACKEJAVI[6]

" In the 37th year (Andû) of the reign of TRIBHUVANA VIRA DEVA, " Sovereign of the three worlds,[7] who having taken (or holding) Ma-

1 A *ma* is a 20th part.

2 *Mapatti* is probably the name of a field.

3 *Kalanji*, an ancient weight.

4 *Ijjagatala Tamanar* " the Lord of this world." *Tamanar* should probably be *Tambanar;* the title refers to *Atirana Chandeswara.*

5 Page 263.

6 This is read in two senses. Some explain *Tiruvackejavi* as *Saraswati*, the goddess of learning; while others read the invocation thus, May the *Agamas* and *Vedas* be pre-eminent.

7 *Tribhuvana Chackra vartigal,* a repetition of the Kings titular name.

" dura, Ijam (or Ceylon), and Karuvur, and the crowned head of Pandi-
" yan, made the Virabhishekam and Vijayab'hishekam, (i. e. the lustra-
" tions of heroism and victory; ———— and, by the grace of ADISAN-
" DESWARA, in the temple of SUBRAHMANYA DEVAR, in the Dé-
" vadánam—Brahmadéyam—village[1] of Tiruvijichilúr, in the A'mur cót-
" tam of the victorious Chóla Mandalam :

We Andàr Tillei Nayakar, the overseer[2] of (the temple of) SRI MA-
" HESWARA; Chembiyan Múvênda Vélar, the steward[3] of this temple;
" Pan Mahésvara Battan, otherwise called Adkonda Villi Selavappiran, a
" Siva Bramin, having proprietory right[4] in this temple and officiating in it;[5]
" Narpattennayira Battan, also named Aludeiyán Gnanam Pettan, a Siva
" Bramin, having proprietory right in this temple and officiating in it; and
" Tiruvijichiludayan, the accountant of this temple; all of us have sold the
" lands, (herein undermentioned), and executed a deed engraved on stone,
" in favour of Andár Karuppúrudeiyan Nambi Arputa Kúttar[6], performing
" his adorations in this temple. The lands, which we sold to this person
" because the revenue[7] in the treasury[8] of the god has proved deficient, on
" account of the decrease in the collections (or assessment[9]) of Tiruvijichi-
" lur, the property of the sacred name[10] of Pilleiyar, are as follows :

" In Peri yéri Kajani

	Kuji
" Adeikádu Tenkuru........	184
" Attipattam Kúru..........	250

" In Ural éri Kajani

" Adi Mallei Nátan
" Rettei Cheruvu

" " " In Tengam Kajavu or Arputa Kuttan

" Tàdcheruvu
" Uvarkundil
" Pavasanniyam

1 Granted for the support of the gods and of Bramins.
2 *Kangani*, literally a watchman or Superintendent.
3 *Srikariyam* or chief servant.
4 *Kani.*
5 *Devarkanami-kshetra.*
6 *Kuttan* is still a title of the nobler class of Todavers on the Neilgherry Hills.
7 இறை in the Sadaragradi, the meaning of this word is given as *Kudivaram* the ryot's share.
8 பண்டாரம் a sacred Treasury. Hence in the Travancore state, the term is employed for that Sircar; to intimate that the Government is under the especial protection of the deity.
9 இறைஇறுப்பு
10 திருநாமகாணி a respectful mode of describing the property of the god.

" { In Nirodu Kajavu
" { Ch***n Kajavu

"amounting to Kujis............ 2,280

In Talei Seri Palam

"Udaya Nambi

"Kottamanu

"Kuditangi

"Sivadasa

"Pallavritti

"Amounting to Kujis............ 1440

" Total Kujis, 4,150

"Being Nilams 2, Ma $1\frac{1}{2}$

"This extent 2 Nilams $1\frac{1}{2}$ Mas, and also the building site and garden "containing 400 Kujis situated to the East of Arputa Kuttan and Uva "Kundil, we have sold to this person (aforesaid), to be his property, and "have received its value, 300 new cash, into the Pilleiyar's treasury, and "engraved the deed (of sale) on a stone.

"Having consented (to his) irrigating these lands either naturally or "artificially, and also conveying sufficiency of water to the trees, we "engraved this on stone in favor of Karuppúr Udayàn Nambi Arputa "Kùttar.

" We, the Proprietors of this Temple, have given

"Thus (Signed) Tillei Nayaka

"Thus „ Pan maheswara Battan, or Adkonda Villi Selavappiran, a Siva Bramin, having hereditary right in this temple and officiating in it.

"Thus „ Aludeiyan gnanam Pettan Narpattennayira Battan, a Siva Bramin, having hereditary right in this temple and officiating in it

"Thus „ Siva Kariyam Chembiyan Muvendu Velan.

"Thus „ Teruvijichiludayan, accountant of this temple.

"I, Narpattennayira Pillay, of Tiruporiyur, know this.

"I, Murichettu Nárâyana B'hattan, of Chiratavur, know this.

"I, Velan, of Chiratavur, Amúr Nattu, know this.

"I, Periandan, for Muran Kali Neri and Nekkumaravu, of Mambakam, know this.

"I, Kurovi Drona Battan, of Peiyanur know this.

"I, Mayinda Kuri Battan, know this.

"I, Vishamu Kijavan, know this.
"I, Amur Nattu Velan, of Mamalleipuram, know this.
"I, Kuvaleikanni Maya Kijan Vichan, Warden of the Pilleiyar temple, "know this.

The inscription appears to be an ancient deed of sale, and its importance in this place depends on the means it affords of obtaining some clue to the date at which it was made, and which Dr. Babington hopes may yet be obtained from the similar Varáha Swami *Sasanum.* That however given in the commencement is only the *andu,* or year of the reign, of one of the *Chola* Princes, the exact chronology of which dynasty is yet to be ascertained. There is however another inscription, of an ascertained date, at the neighbouring hamlet of Pavajackarans' Choultry, engraven on a stone under a large Pipal tree, near the steps on the south side of the Tank, the characters of which are precisely the same as those of the Salvam Cuppara rock and the temple of Varáha Swami; who appears moreover to have been the common divinity of all three villages. It is as follows: (vide the original, in modern characters, marked B.

"Prosperity! at the holy time of the Makara Sankrama, on Wednesday, "the 5th in the constellation of Uttiratadi, in the Brama yoga, in the Bâla-"vàkarana, in the light fortnight of the month of Makara, in the cycle "year Manmatha, and Saka year 1157, when Sriman Maha Rajadhi Raja "Parameswara Sri Vira Pratàpa Vikrama Déva Maharayer ruled over "the earth, (on that occasion,) Tiruvengala Nayakar gave the piece of "land surrounding the Mantapam, dedicated by Timmapa, for the halting "place at the festivals of Pádiveta of Perumal Adivaraha gnana Peran, the "deity of [the three villages] of Punjeri, Tirupackadal, and Mahamallei-"puram, extending over 1000 Velis of land, in the Vadakanadu,* of the "Kottam of Amur, in the Victorious Chola mandalam,—This piece of land, "and the salt pan in Kuttapakam, called Viraya Pambam, have been given "so long as the moon endures for the Pàdiveta Tirunal of this deity. Ad-"ditions may be made to this donation. May this charity be continued "so long as the moon endures! Let the hidden treasurers, waters, mine-"rals, and every thing which the land or the salt pan contain within their

* Northern District.

"limits, become the property of this deity. Any person that injures this "charity, will incur the guilt of having killed a cow on the banks of the "Ganges. The Kaniyalars, [or Proprietors of the land], Singalangamar, "Nyna Mudaliar, and Virava Nynar, have affixed their signatures to "this gift. Thus also Pyanurudayan Uttam Pirayan Annappen, the "village Kurnum, has signed. May prosperity continue!"

Who *Vikrama Dev* was, does not appear; but he may have been a local officer, perhaps a feudatory or governor under the *Cholas;* which dynasty shortly afterwards gave way to that of the *Rayeels of Bijanagar.* The Salivahana year 1157, corresponding with A. D. 1235, however gives a tolerable approximation to the Æra of the Tamil inscriptions; which, as connected with the worship of Vishnu under the form of the Boar incarnation, and the representation of the same subject in one of the Caves, [plate 5 of Dr. Babington], afford also some clue to the period at which the sculptures were executed. A further guide to the æras of both the Tamil and Nagari inscriptions may be obtained by combining and comparing some scattered notices obtained in other inscriptions.

An inscription at Dharavaram in Rajahmundry shews that a *Vira Chola Deva* was reigning in† S. S. 1001 or A. D. 1079. His name too occurs in the best authenticated lists of the *Chola* dynasty. I have no doubt that this is the prince above alluded to. The grant would therefore be in 1038, or about a century anterior to that of *Pavajackarans Chuttram.*

That these Tamil inscriptions were posterior to the formation of the *Adichandêswara Mantapam,* the *Rathas* and the temple cut out of a single mass of rock, (from which Dr. Babington copied the *Kama Raja* inscription,) is established by the invocation of ADISANDESWARA,‡ the tutelary deity of

† He also bore the titles of *Kulottunga* which seems to have been adopted by several *Chola* princes; of the 7th *Vishnu Verddhana;* and of *Tribhuvana Malla* in other inscriptions from the same district. See MS. Catalogue of the McKenzie inscriptions.

‡ *Adisandêswara* must be identical with "*Atiranachandêswara*" the Lingam set up by *Atiranachanda* See Dr. Babington, Trans. Roy. As. Soc. V. II. p. 267.

In Tamil the ஞ pronounced "*t*" at beginning of a word, and *d* in the middle, is identical with the Grantham and Nagari *t;* and ஞ is the only Tamil equivalent for the Nagari *Ch.*

Tiruvijichilur, in the inscription on the rock.

In a copy of a Grant at Pittapoor, in my possession, *Vijayaditya*, the founder of the *Chalukya* dynasty of *Kalinga*, about the middle of the 6th Century,* is described as "destroying the southern King *Trilochana Pallava*, and, thro' the "decree of Fate, losing his life in that country." From the title *Pallava* it may be inferred that this chief was of the same race, and probably the same family as *Kama Raja*, surnamed *Jaya Rana Sthamba*, [the pillar of successful war], and *Ati Rana Chanda Pallava.*

Another inscription, engraved on a set of copper plates, (in the possession of Mahendra Shanta, a Jain Guru at Hyderabad,) and of an æra 60 or 70 years later contains the following passage.

"Having conquered in battle, the hostile kings in the different quarters "&c. he acquired the names of *Parameswara* and *Vicramaditya*.† Moreover *Pallava Mardu* was overcome by this Lord *Sri Vallabha*, who annihilated the renown of *Narasimha*, surpassed the valor of *Mahendra*, and "excelled *Iswara* in affability. He has justly assumed the title of *Sri Vallabha*, being in the unprecedented possession of *Kànchi*, as it were the "loosened zone (kanchi) of the Nymph of the south. He is also rightly entitled to the name of *Rajamalla*, having secured his acquisition by his "large and strong arms, and conquered the chief *(Palaka)* of the *Mahamalla* race."

From these facts it may be inferred, that the rulers of Malleipuram were in a state of independence in the 6th and beginning of the 7th Centuries. We know from other sources that the *Chola* Kings reduced *Tondamandalum* about the 7th Century.‡ At that time it was parcelled out among

* About S. S. 475 or A. D. 553.

† This refers to one of the early *Chalukya* Kings of *Callian*, who is described in the beginning of the Copper plates as son of *Satya Sriya*, grandson of *Kirti Varma*, and great grandson of *Pulikesi*. His æra was about S. Saca 518 corresponding with A. D. 620. The *Kalinga* and *Kallian* dynasties were collateral branches of the same race.

‡ Ellis in Trans. Mad. Lit. Soc. p. 19.

a number of petty chiefs of the *Curumbar* race,* who with their followers were almost entirely extirpated by the *Cholas*. The family that posessed *Mamalleipur* was probably one of the principal of these. The excavations therefore could not well have been made later than the 6th Century. Neither could they have been much earlier, for the forms of the letters both Grantham and Nagari do not justify the supposition of a higher antiquity.†

Under the *Chola* dynasty we find Tamil invariably employed as the character of inscriptions.

Whether all the temples were excavated by the *Pallavas* seems questionable. They were evidently worshippers of *Siva*. Many of the subjects, particularly those in plates 2, 5, 7, 10 of Dr. Babington's paper, belong to the *Vaishnava* creed, which is more particularly referred to in the inscription at Pavajackaran's Choultry, and is known to have been of later origin. It is not improbable, therefore, that these may have been the work of more recent devotees, emulous of the fame of *Kama Raja* and *Ati Rana Chanḍa Pallava*.

In the possession of the Pujari of the modern temple is a deed in Telugu, engraved on copper plates connected by a ring, with the figure of a boar and a sword on the seal, purporting to be a grant of the village of Nelatur to *Kesavarya Sri Rangachariya* by *Vencatapati Sri Deva Raya* in the Saca year 1532, *Plava Samvatsara*.

* 2d Report on the McKenzie MSS. by the Rev. W. Taylor p. 86. Journal VII. p. 311.
† See Prinsep's comparative table of Hindu alphabets.

A.

ஸ்வஸ்திஸ்ரீ-திருவாய்க்கேழ்வி முன்பாக ஸ்ரீ௨வ௩ஷ்ஞ்ஜவத்திகள் மதுரையுமீழமும் கருவூரும் பாண்டியன் முடித்தலையும் கொண்டு வீரஅபிஷேகமும் விஜய அபிஷேகமும்பண்ணியருளிய ஸ்ரீவஷ௩வீர தேவற்குயாண்டு-௩௰எ-வது-ஜயங்கொண்ட சோழமண்டலத்தாமூர்க்கோட்டத்து தேவதானம் ப்ரஹ்ம தேயம திருவிழிச்சிலூருடைய ஸ்ரீ-ப்ரஹ்மதேவர்கோயில் ஆதி ஸப்ரஹ்ம ப்ராதேவரருளால்இக்கோயில் ஸ்ரீமாஹேப்வர கங்காணிஆண்டார்தில்லைநாயகரும்ஸ்ரீகார்யஞ் செம்பியமூவேந்தவேளாருமிக்கோயில் காணியுடையசிவப்ராஹ்மணன் தேவர்கன் மிகேஷத்திரத்துஆட்கொண்டவில்லிசெல்வப்பிரானுனபன்மஹேப்வர பட்டனுமிக்கோயில் காணியுடைய சிவப்ராஹ்மணன் தேவர்கன்மிகேஷத்திரத்து ஆளுடையான் ஞாநம்பெற்றானான நாற்பத்தெண்ணாயிரபட்டனும் - கோயில் கணக்கு திருவிழிச்சிலுடையானும் - இவ்வனைவோரு மிக்கோயிலில் கும்பிட்டிருக்குங் ஆண்டார் கருப்பூருடையானம்பி அற்புத கூத்தற்கு நிலவிலை ப்ரமாணம் பண்ணி கல்வெட்டி குடுத்த பரிசாவது பிள்ளையார் திருநாம காணியாந திருவிழிச்சில் உள்ளூரில் இறை இறுப்பு அரிதாயஸ்ரீபண்டாரத்தில் தட்டிறை இறுக்கையால் நாங்கள் இவர்க்கு விற்று குடுத்த நிலமாவது- பெரியேரி கழனியில் அடைகாடுதென்கூறு-து ா அம்ம்-அத்திப்பட்டங் து-உா௫மம்-ஊறல் ஏரிகழனியிலாதிமல்லை நாதனும் - ரொட்டை செறுவும் தேங்கமகமுவனுமான அற்புதகூத்தனும்- உவாகுண்டினும்-பாவசாநியும் நீரோடுகேழுவனும். ஜீ * * * கழுவனும்- அ௲ து-உதஉா அம - தலைசரிப்பாளத்தில் உடையநம்பியும்-கொற்றமானும்-குடி தாங்கியுஞ்-சிவதா

சனும்-பட்டவிருத்தியும்- ஆ௨ து - ஜுசாசமும் - ஆ௨
து சதாருடு-ருல் - நிலம் - உபசு - இந்நிலம் - இரண்
டே ஒருமாவரையும் - அற்புத கூத்தனுக்கும் - உவாக்
குண்டிஅுக்குங் கிழக்குமனையும் - உள்படப்பையும் -
துசாம் - இவர்க்கு காணியாக பெறும்விலைக்குவிற்று பி
ள்ளையார் ஸ்ரீபண்டாரத்துக்கு கைக்கொட் புதுக்காசு-
௩௱-இக்காசு முன்னூற்றுகரும்-விலைக்குறவிற்று கல்வெ
ட்டிக குடுத்தோ மிந்நிலங்களுக்கு நீர்பாய வேண்டுவ
தும்-இறைக்கக்கடவதும்-ஏரிகளிலே நீர்பாய வேண்டுங்
கொத்தநீர்பாயவும் இப்படிக்குச் சம்மதித்து கருப்பூ
ருடையானம்பி அற்புதகூத்தர்க்கு கல்வெட்டி குடுத்
தோம். இக்கோயில்ஸ்தாநததோம் - இப்படிக்கு இ
வை தில்லை நாயகன் எழுத்து - இப்படிக்கு இவை இக்
கோயில்காணி உடைய சிவப்ராஹ்மணன் க்ஷெத்திரத்து
ஆட்கொண்ட வில்லிசெல்வபிரானான பன்மாஹேஸ்வரப
ட்டன் எழுத்து-இப்படிக்கு இவைகோயில் காணியுடை
ய சிவப்ராஹ்மணன் க்ஷெத்திரத்து ஆளுடையான்ஞாநம்
பெற்றானான நாற்பத்தெண்ணாயிரபட்டன்எழுத்து-இப்
படிக்கு இவை சிவகாரியம் செம்பியமூவேந்த வேளான்
எழுத்து - இப்படிக்கு இவை கோயில் கணக்கு திருவிழி
ச்சிலுடையான் எழுத்து — இப்படி அறிவேன் திருப்
போரியூர் நாற்பத்தெண்ணாயிர பிள்ளையோன் - இப்படி
அறிவேன் சிறுதாவூர் முறிச்செட்டு நாராயண ஹட்ட
னேன் - இப்படி அறிவேன் சிறுதாவூர் ஆமூர்நாட்டு
வேளானேன் - இப்படி அறிவேன் மாம்பாக்கிழான்
கவினெறிக்கு மறனெறிக்குமறவுக்கு பெரியாண்டா
னேன் - இப்படி அறிவேன் பையனூர் குமோவிஜொ
ணயபட்டனேன் - இப்படி அறிவேன் பையனூர்மயிந்
திகுறி நாராயண பட்டனேன் - இப்படி அறிவேன் விசு
மூர்கிழவனேன்-இப்படி அறிவேன் மாமல்ல புரத்தோ

ரில் ஆமூர்நாட்டுவேளானேன்-இப்படி அறிவேன் இப்பிள்ளையார் தேவதருமகுவளைக்கண்ணிமாம்பாககிழான் விச்சாசிரனேன்.

B.

ஸ்வஸ்தி ஸ்ரீமன்மகாராசாதிராசபரமேஸ்வர ஸ்ரீவீரப்பிரதாப விக்கிரம தேவமகாராயர் பிறுதிவீராச்சியம்பண்ணியருளாநின்ற-சகாப்தம் -சதாருடஎ-மேற்செல்லாநின்ற மன்மதவருஷத்து மகரநாயற்றுபூறுவபக்ஷத்து பஞ்சமியும் - புதவாரமும் - உத்திரட்டாதியும் - பிறம்மயோகமும் -பாலவகரணமும் பெற்ற-மகரசங்கறம்புண்ணியகாலத்திலே - செயங்கொண்டசோழமண்டலத்து-ஆமூர் கோட்டத்து - வடகநாட்டு ஆயிரவேலிப்பற்று ஆனபூஞ்சேரி திருப்பார்க்கடல் மகாமல்லைபுரத்துபெருமாள் - ஆதிவராகம்-ஞானப்பிரான்பாடிவேட்டை திருநாள் எழுந்தருளுகிற மண்டபம் சூழ்நாற்பாற்கெல்லையும் திம்மப்பனால் சாதனமாகவும்- சுவாமி இறங்குவதற்குதானமாகவும்-இந்நிலங்கூத்தபாக்கத்தில் வீரயப்பாம்பன்-அளம்-ஒன்றும்-இந்தப்பெருமாளுக்குபாடிவேட்டைதிருநாள்ஆசந்திரஸ்தாயியாக இந்தத்தற்மம் விருத்தியாய் தானமாகத் திருவேங்களநாயக்கன் விட்டதன்மம்-ஆசந்திரஸ்தாயியில் நடக்கக்கடவதாகவும்-இந்தநாற் பாற்கெல்லையிலுட்-இந்த ஒரு அளத்திலுட்-உண்டானஇந்த நிக்ஷேபஜலபாஷாண சகலசமுதாயப்பிராப்த்தியும்-இந்த ஞானப்பிரானுக்கே செல்லக்கடவதாகவும். இந்த தன்மத்துக்கு-அக்கிரமம்பண்ணினவன்-கெங்கைக்கரையிலேகபிலைப்பசுவை வதைத்ததோஷத்திலேபோகக்கடவாராகவும். இந்த தன்மத்துக்கு காணியாளர்-செங்கலங்கமார். நயினமுதலியார் - வயிரவநயினார் எழுத்து. இப்படிக்கு ஊர்க்கணக்கு பையனூருடையான் உத்தமபிராயன் அன்னப்பன் எழுத்து - ஸ்ரீஹஉலூ.

Engraved by F G Hurst, Madras,
from a drawing by G.W.M.

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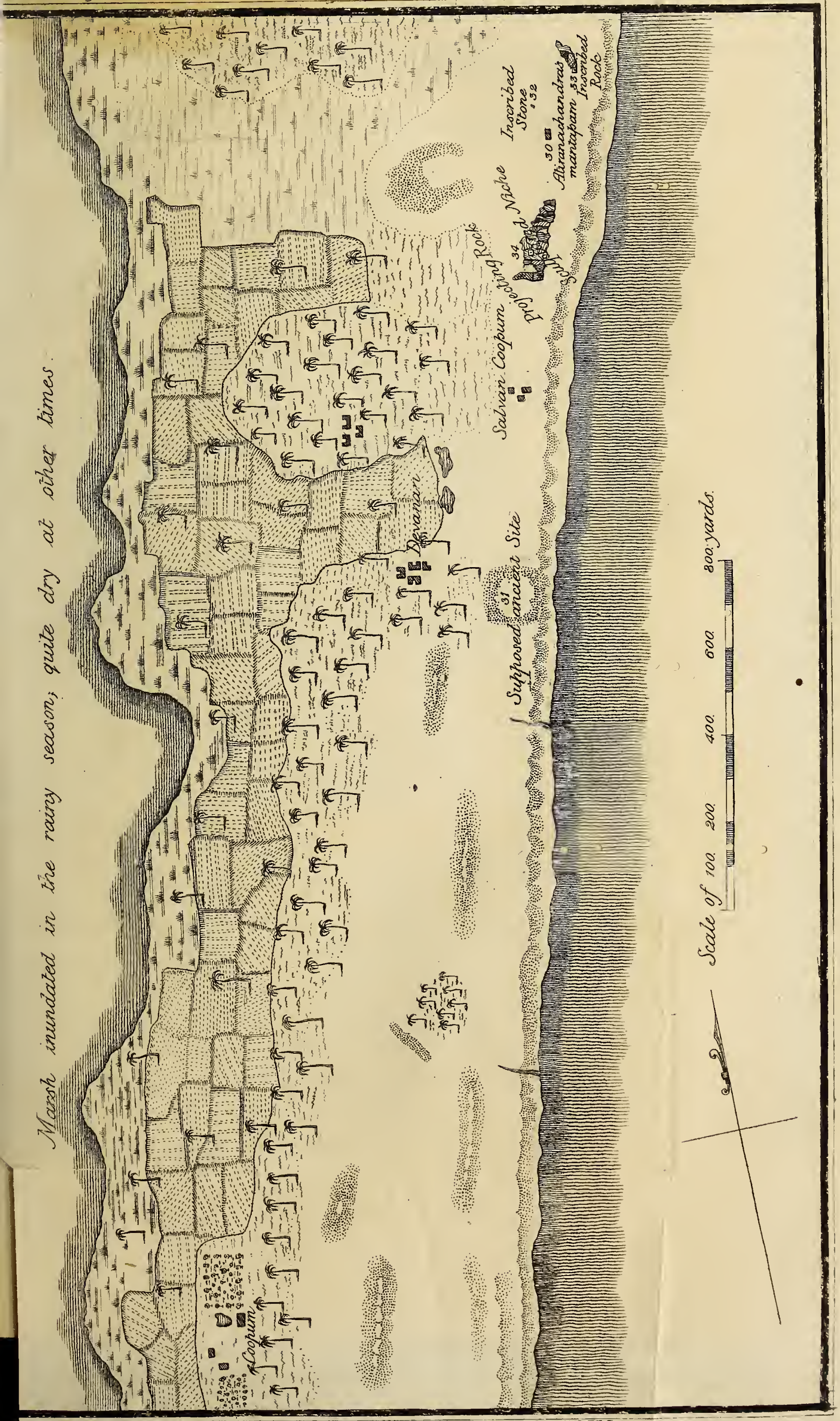


Engraved by F. G. Hurst from a drawing by G.W.M.

NATURAL HISTORY

SIXTH REPORT ON MACKENZIE MANUSCRIPTS.

(Concluding Section.)

A: TAMIL.

a: PALM LEAF MANUSCRIPTS.

II.—*Valli-amma-Puránam,* or legend of the consort of *Subrahmanya.* No. 121. C. M. 42.

Another Copy, No. 122. C. M. 46.

The first of these two MSS. is rather old. It contains from the 1st to the 279th leaf in regular order: and then breaks off, remaining incomplete. The *Puránam* is given in the original form of versification of the *viruttam* stanza, and a prose version of each stanza is added. This copy is slightly damaged by insects; but not to any serious extent.

The other copy is written on broad Talipat leaves, containing the original poetry, without any super-added explanatory version. It is complete: and continues in good preservation.

The whole *puránam* is divided into sixty *sargas,* or sections. It may suffice to give a brief indication of the contents, down to the Episode, whence the production is made to take its name.

1. The enquiry of *Sivacan* made of *Carunam-murti,* from which the production is stated to originate. Invocation as customary. Table of contents. Eulogy of the country, or *Chola-desam.* In the *Cali yuga* 4573. Sal. Sac. 1399, in the time of *Achyuta-rayer,* the writer named *Carunam-murti,* son of *Arulalan* composed this *puránam* in order to remove the effect of an evil denounced by a *Saiva* ascetic, on *Sivacan,* who had intruded on the former's penance, when hunting a deer. The narration is given according to a statement by *Nareda* at the command of *Vyasa.*

2. The Section of the tree of plenty. *Nareda,* the son of *Brahma* took a flower from the said tree which he offered to *Vishnu* in the latter's paradise as an act of homage. *Lacshmi* thence took occasion to enquire of *Vishnu* where the said tree is situated. In reply *Vishnu* informs her of her own birth at the churning of the ocean in the *Cûrma-avatara;* together with the birth of *Sarasvati;* and the productions of various other persons, and things at that time; among them being the said tree; which he finally states is now to be found in the *Dever-loca,* or the world of the gods.

3. The birth of *Cumari.* *Vishnu* going to the said world to fetch the tree in question, agreeably to the earnest desire of *Lacshmi,* found occasion, by the way, to predict the birth of *Cumari,* as the daughter of one named *Vibudhi,* and to announce that she would be married to *Cumara,* the son of *Siva.* He brought the tree to *Lacshmi,* to her great content. According to the prediction *Cumari* was born, as the daughter of *Vibudhi;* and manifesting a great partiality for *Cumara,* her mother *Vibudhi* sent for *Nareda* in order to relate to *Cumari* the actions or exploits of *Subrahmanya.*

4. The legend of *Dacsha's* sacrifice. This legend having been before given, need not be repeated. It is here introduced in order to account for the wife of *Siva,* who lost her life on that occasion, again being born as *Parvati,* the daughter of *Parvata-rayen.*

5. The legend of *Maya* and *Casiyapa.* The celestials having displeased *Siva,* in the aforesaid matter of *Dacsha,* he resolved on humbling them; and to this end sent for *Maya,* directing her to go, and intrude on the penance of *Casiyapa,* and by so doing to nullify its force.

6. The birth of *Suran.* In consequence of *Siva's* instruction, *Suran* was born as the son of *Casiyapa;* and a variety of

other monstrous forms, with a host of minor beings, were also produced.

7. The celestial gifts acquired by *Suran.* By dint of penance directed to *Siva, Suran* or *Sura Padma* acquired supernatural powers, and superhuman weapons; with which he invaded the world of the gods, and the world of *Brahma,* and plundered them.

8. The penance of *Indra.* In order to remove the evil, *Indra* performed penance directed to *Siva,* and acquired superior powers to any before possessed: he also received the assurance, that all these evils should be removed by *Armue'han,* or *Subrahmanya.*

9. The penance of *Siva.* In order to nullify its value, *Brahma Vishnu* and *Indra* sent *Manmata,* who shot at *Siva,* with one of his arrows; and was burnt to ashes in consequence of *Siva's* opening his frontlet eye. *Reti,* his wife, interceded with *Siva,* and received as a boon the assurance that her husband should wear his proper form to her sight alone, but should be invisible to all others.

10. The marriage of *Siva.* On relinquishing his penance, *Siva* formed an attachment to *Parvati,* the daughter of the king of *Himâlaya* mountain, and was married to her.

11. The origin of *Scanda,* or *Subrahmanya.* *Siva* and *Parvati* resided a length of time in the wilderness. In consequence of a very high and unpleasant wind arising, *Siva* darted six fires, from his frontlet eye, to destroy the said wind; these *rayans* were afterwards collected in the *Sarvana* pool, and moulded into the form of *Subrahmanya,* having six faces. The young celestial asked *Brahma* the meaning of the *Pranava* or mystic triliteral syllable; and as Brahma could not tell it, he put *Bramha* in prison. *Siva* hearing of this transaction, sent for *Subrahmanya,* and enquired the reason of this con-

duct. On the latter stating it, *Siva* enquired if he himself knew the meaning of the *Pranava,* which *Subrahmanya* immediately gave, as having overheard it from *Siva.* An order was given to release *Brahma,* which order was obeyed.

12. Relates to the birth of *Hari-hara** as the son of *Siva* and *Vishnu* in the form of *Mohini* (which son is more usually termed *Ayinar,* in the South). *Indra* made a very large wilderness, or paradise, of flowers, and placed guards. *Sura-padma* from ill-will, took the seven kinds of clouds, and bound them in chains, that they might not rain on the said paradise.

13. The origin of the *Caveri* river. The earth remained twelve years without showers. *Agastya* had been sent to the south, having taken some water of the Ganges in his ordinary drinking utensil. *Siva* told *Vinayaca,* or *Ganesa,* to go and upset the said vessel. The latter assumed the form of a crow, and on pretence of sipping, upset the vessel; the water of which flowed out, in three streams, and ran through the aforesaid wilderness. *Agastya* in displeasure struck the crow on the head, and in consequence *Ganesa* obtained the boon that all his worshippers should approach him, striking their heads with their hands or knuckles.

14 *Indrani* consort of *Indra* was imprisoned by *Asva-muc'hi,* one of the brothers of *Sura-padma.* Other instances of oppression by the *asuras* occuring, the celestials went, and proffered a complaint, to *Siva.*

15. In consequence of their complaint, *Siva* asked who was the fittest person to effect the subjugation of the *Asuras,* and the whole of them pointed out *Subrahmanya,* as the proper person to effect the said conquest.

* Not particularized in this abstract. The *Vaishnavas* appear to regard the legend as a sarcasm, invented by the *Saivas.*

16. *Siva* gave orders to *Subrahmanya* to go, and overcome the *asuras;* giving him many celestial weapons, the assistance of *Vira-Bahu* as his General, and countless number of troops.

17. Relates to *Mahendra,* the town of the *asuras.*

18. The embassy of *Vira-Bahu* to enquire if the wives of the celestials would be released from prison, or not. A negative was given.

19. The contest between *Subrahmanya,* with his army, and the forces of *Sura-padma.*

20. The events of the war; the destruction of the *asuras;* the flight of one of them, hiding himself in the sea; the release and restoration of *Indrani,* and the other consorts of the celestials, are narrated.

21. The marriage of *Subrahmanya* with *Deviyani.* The daughter of *Indra* was *Deviyani,* who after various preparations was, with all pomp and splendor, affianced to *Subrahmanya.* The latter afterwards returned to *Cailasa.*

22. Relates to the birth, in mortal form, of the said *Deviyani,* as the daughter of *Vibudhan.*

So much may suffice as to the nature of this *Puranam;* a considerable portion of which is merely an epitome of the *Scanda-puranam.* It does not seem needful to enlarge in the shape of remarks, on the *religion* of the natives.*

2. *Valliyamma-nátaca* No. 123. C. M. 129.

This is a drama founded on the story of *Subrahmanya's* marriage to *Valliyamma.* It is composed in a great variety of metres, as usual in Tamil dramas, and demands no further

*Note.—An entry of the MS. occurs in the Des. catal. Vol. 1. p. 174. Art. 31; only one copy being mentioned.

special notice. The book is of recent writing; in good preservation; and appears to be complete.*

3. *Agastya vaidyam Nuttiyanpathu,* or one hundred and fifty stanzas on medicine; said to be by *Agastya.* No. 90, C. M. 250.

This work is complete, and in good order.†

4. *Agastya vaidyam Muputhu,* or thirty stanzas on medicine by *Agastya* No. 86. C. M. 254.

This book is complete, and in good order.‡

5. *Mupu pustakam.* No. 85. C. M. 253.

In this book, parts of two MSS. are contained. One portion by the poet *Conganar,* is entitled *Ubaiya-dicsha,* and relates to ceremonies of initiation, and discipleship. This is complete on thirteen small palm leaves, uninjured.

There follows a medical treatise, of which two palm leaves are deficient, at the beginning, leaving the title uncertain. The medical contents are mingled up with references to the astrological *yogas*; and to ceremonies of the *saiva*-worship.§

6. *Vaidya-suttrum-munnur.* Three hundred stanzas on medicine. No. 87. C. M. 252.

This work is complete, in 300 stanzas, on 68 small palm leaves uninjured. It is ascribed to *Agastya.* It treats on the composition of various medicines, one of them being *amrita-sanjivi,* or a panacea for the prolongation of life. The recipes are numerous.¶

* It is entered in the Des. catal. Vol. 1. p. 215. Art. 7.

† It is entered in Des. catal. Vol. 1. p. 259. Art. vi.

‡ It is entered in Des. catal. Vol. 1. p. 260. Art. ix.

§ Note.—Two copies are entered in the Des. catal. Vol. 1. p. 260. Art. ix. under the title *Muppu,* ascribed to *Agastya.* I have not met with any other distinct book in the collection, bearing such an endorsement.

¶ The book is entered in Des. catal. Vol. 1. p. 259. Art. v.

7. *Vaidya nur* a hundred stanzas on medicine No. 89. C. M. 240.

This tract wants four stanzas at the end: the preceding part is complete, and in good order.

A few leaves, containing another medical tract, called *purna lekiyam* are added: these leaves are damaged at one end.*

8. *Pūrana Sutram*. No. 82. C. M. 243.

This manuscript contains two parts; the first being a medical treatise ascribed to *Agastya*, containing 203 *sutras*, or brief stanzas. The other part contains 201 stanzas, also ascribed to *Agastya*, of which the title is *Pūrănam*, or fulness; being a compendium of ascetic observances, modes of penance, austerities, and the like. Both parts appear to be complete.

9. *Pūrana Sutram*. No. 83. C. M. 244.

There are three parts in this book. The first contains 216 *Sutras* on alchymical preparations, purgative, and other medicines. The second is termed *puja-vidhi*, and contains 199 stanzas of the *viruttam* class, on modes of worship, or homage, in the ritual of idol worship. The third is entitled *dicsha-vidhi*, and contains 201 stanzas, on the modes of initiation to discipleship in the *Saiva* system. The whole book contains 601 stanzas, ascribed to *Agastya*; but, in my view of the case, as a literary device to give authority to the productions of other individuals.

These two books No. 82 and 83, are in good preservation.†

Dr. Ainslie in the Appendix to his Materia Medica of Hindoostan, part 2. has enumerated several works, medical

* The MS. is entered in Des. catal. Vol. 1. 260. Art. viii.

† They are entered in Des. catal. Vol. p. 258 Art. 2.

and others, as ascribed to *Agastya;* among them the *Scanda puranam,* and Madura *puranam,* and also part of the preceding treatises. It would not be among the least of the marvels ascribed to *Agastya,* if all that has been attributed to him, in the way of authorship, were really of his composition.

10. *Devāram,* hymnology. No. 102. C. M. 159.

This manuscript contains a collection of chants, which are said to be the productions of *Appar, Sundarar,* and *Sampantar;* though by one printed account the collection is restricted to the productions of the two last of the three. *Appar* was at first a *Jaina*: concerning him and *Sampantar,* sufficient has been stated in the foregoing portions of my abstracts. *Sundarar* is said to have been born in the Nellore district, and trained at Chellambram. The popular account is, that the three poets travelled about, as minstrels, composing chants in honor of the images at different places visited by them; and such shrines are considered to have received additional lustre thereby. These chants have a reference to *Saiva*-shrines.

The Manuscript wants 23 leaves at the beginning. The remainder is complete: it is only slightly damaged.

Appended is an Index to the contents of the *Tiru-vāchagam,* a kindred production by *Mānica-Vāsacar,* before noticed.*

11. *Manavāla-narayana sataca.* No. 154. C. M. 172.
Another copy ,, 153. ,, 173.

These are both complete, and very slightly injured, copies of this poem, of one hundred and one stanzas. The work is of a moral, and didactic kind; relating in the first instance to the appendages of a court, and metropolis; and

* The book is entered in the Des. catal. Vol. I. p. 224. Art. xxxiv.

afterwards to various matters pertaining to more ordinary life. It is a very popular work; found in almost every house, and a common school-book. A specimen of the opening contents translated, was published by me in the Appendix to Vol. 2 of Or. Hist: MMS. As a work on manners, and morals, the whole would merit translation. It is composed in the kind of stanza termed *Viruttam;* and, as far as I can ascertain, by one named *Virumatācharya;* though it bears the name of *Manavala-Narayana;* from a merchant of that name having been the poet's patron.*

12.	*Ter-urnta purunam*	No.	15	C. M.	23.
13.	*Ter-urnta vachacam*....	,,	108	....	113.
14.	Another Copy.........	,,	109	....	115.
15.	*Ter-urnta nataca*.......	,,	110	....	114.
16.	Another Copy..........	,,	111	....	111.
17.	Ibid....................	,,	112	....	112.

The books though in different kinds of composition, and of varying sizes, yet all relate to one common subject; which is, the incident said to have occurred at *Tiruvārur*, when the son of a *Chola*-king, proceeding in his car to view a public procession, at a festival, ran over, and killed an illusive, or symbolical, calf; which said calf was composed of *Siva*, and an aggregate of various other celestials. The whole legend is given, at some length, in my second report. C. Telugu: MS. Book No. 33, Sect. 1. With that statement the books above specified, harmonize in every important point; and it is not needful, by consequence, to repeat an abstract of the subject.

The following notes relate to the condition of the respective books. No. 15 is wholly in verse, of the *Viruttam* species; containing 103 palm leaves, and 163 stanzas. It is complete; and though slightly touched by insects, yet may be

*Both Manuscripts are entered in the Des. catal. vol. 1. p. 226, Art. XLIV. but incorrectly, both as to subject, and author.

considered as generally in good order. There is appended a fragment of a poem entitled *Cumarēsa-sataca,* containing 8 leaves, and 29 stanzas ; but not complete.

No. 108 is a plain prose version of the tale, it is slightly touched by insects, but complete.

No. 109 is another copy in a scrawling hand writing ; damaged in one place, by insects, but for the rest, in good order and complete.

No. 110 is a damaged, and incomplete copy, rather old.

No. 111 is not complete at the end, but as far as it goes is in regular series, and in good order ; being quite recent, as to palm-leaves and hand writing.

No. 112 is old and damaged ; the latter portion of different size, and recent appearance. The copy wants the first leaf, and two leaves at the end ; the intermediate portion is in connected order.

The three last copies are of a drama founded on the legendary story ; the composition being made up of prose and verse, of the different species termed *venpa, virattum, taruvu,* and *koçha-çavi,* as usual in dramatic compositions.*

B. TELUGU.

a. Palm-leaf Manuscripts.

1. *Sringāra-Raghavani-prabandhu-Katepalli-vāru vamsi-vali,* or genealogy of a chief of *Katepalli.*

The genealogy is complete ; but apparently other matter ought to follow : if not it is merely a sycophant-effusion. As it is, there is nothing in it of special consequence : it is written

* Note—The *puranam* is entered in Des. catal. Vol. 1. page 167. Art. xv. The *nátacas* at p. 213 Art. 1. (including the two *váchacas*) : five copies are specified ; and I find no notice in the catalogue of the latter, as distinct productions.

in the *Padya-cavyam* measure by *Vencatadri.**

2. *Padmasarasu-mahãtmya.* No. 105. C. M. 294.

This "legend of the flower stream" is intended to fix the birth, or at least the re-appearance of *Lacshmi,* in her lotus flower, in the *Svarnamuc'hi* river, that flows past Tripeti. *Brighu,* the great sage, felt disposed to test the longanimity, or good temper, of *Vishnu,* to see if he really possessed divinity; and, for that purpose, rudely kicked Vishnu† on the breast, which treatment the divinity meekly bore; and *Brighu,* now convinced, abounded in praises; declaring that *Vishnu* was god, and that there was no god besides *Vishnu.* The consort of the latter was not quite so gentle; and, being indignant that her lord should submit to be kicked by a mortal, ran away; descended to the inferior world; resided near to *Capila,* (a partial incarnation of *Vishnu);* and, at length, honored with her presence the *Svarna-muc'hi* river. *Sarasavati,* received a celestial communication to go and seek out the fugitive, with some indication as to place; and succeeded in finding her, lotus-throned, in the aforesaid stream. A reconciliation following, *Laschmi* now dwells with *Vishnu,* as *Vencata-svami,* at Tripeti. The author has written, or, quoted, the legend in Sanscrit, adding a Telugu version in the *Padya-Cavyam* metre.‡

3. *Ahobala Pandityam.* No.. 91. C. M. 485.

This work named after the author, and by himself termed *Cavisirópushana,* is an explanatory gloss, on the work of

* Note.—It is fresh in appearance, and in perfect condition; a brief but accurate entry occurs in the Des. catal. Vol 1. p. 339. Art. 57.

† In the last part of the *Padma-purãnam,* and in the 10th book of the *Bhagavatam,* the like treatment from *Brighu* is stated to have been exhibited towards *Brahma* and *Siva,* with a different result in each case.

‡ Note—The document is deficient at the end. It is recent, and only very slightly punctured by insects, an entry will be found in Des. catal. Vol. 1. p. 227. Art. 21.

Nannaiya Bhatt, on Telugu prosody, and grammar. The work is largely illustrated by Sanscrit authorities and references, and the use, or meaning, of terms defined from the Sanscrit. It bears the character of being a valuable work, on the subject of which it principally treats. The author, being a votary of *Rama,* has connected with the production extensive eulogy of his patron god.*

4. *Samudrica-Lacshanam,* or Palmistry. No. 113.

C. M. 451.

The title denotes the quality or character of moles, warts, or other marks, on the body ; and is taken technicaly for a treatise on that subject, including palmistry, or fortune telling by inspecting the lines of the hands. It also derives prognostics of good or evil, from the size and relative proportion of the different members of the body ; for example, long arms, and long slender fingers, are deemed fortunate ; and one of very large body, and very long feet will be always poor. It is however superfluous to enter into details.

The Manuscript is damaged by a few of the leaves being broken, and others perforated by insects ; it is also very incomplete, there being only 13 palm leaves out of a book, which, if entire, ought to contain more than a hundred. The author's name was *Annaiya.*†

5. *Vaidya pustaca.* A Medical treatise. No. 127. C. M. 498.

This book, according to its title, treats on diseases ; such as fever, head-ache, cholic, &c., together with medical preparations and prescriptions. It is written on *Talipat*-leaves,

* Note.—The work is complete in five parts, and is in extremely good preservation. It is entered in the Des. catal. Vol. 1. p. 352. Art 2.

† It is entered in Des. catal. Vol. 1 p. 356 Art. 2.

in a rather rude and peculiar hand: and is in very good preservation, though incomplete, wanting some leaves at the end.*

6. *Atmanātma-vivēcam,* a treatise on mental, or intellectual, knowledge.

This work is a translation from the Sanscrit; and may be stated to contain two grand divisions, which relate to the divine, and human, nature.

1. In the divinity there are three forms, or hypostases, actuated by one pervading mind. The three forms are *Brahma, Vishnu, Siva,* whose bodies are respectively red, blue, and white. In the pervading mind there are five properties, or powers, analogous to five senses. They are one in counsel, diverse in operation: *Brahma* creating, *Vishnu* preserving, *Siva* destroying. There is only one Supreme in the Universe, denoted by the term *Trimurti.*

2. In the human nature there is a compound of body and soul. In the mind, or soul, there are five senses. In the body there are seven vital airs, which operate in various ways, by pulsation, &c. In the body there are nine apertures. The perfection of human nature consists in the restraint of the five senses, seven vital airs, and nine apertures; the mind being fixed in contemplating the Supreme, who has five powers, and diversely operates by three forms, as Creator, Preserver, and Destroyer.

Remarks.—This is the primitive *Hindu* system; and *mutatis-mutandis,* it might be the composition of a Talmudical-Rabbi. Both classes of writers probably derived much from Noachical traditions. There are minuter statements, both as to the Divine qualities or powers, and human faculties, than I have brought into this brief Abstract. It seems

* It is entered in Des. catal. Vol. 1 p. 357. Art. 4.

to me to negative the assertion, which has been very confidently made, in the analysis of Ancient and Hindu Mythology by Col. Vans Kennedy, that a Triad, with one pervading mind is a dogma unknown to Hinduism. The work I think is valuable. Very different, and very greatly depreciated (to use a gentle term), are the views and dogmas, both of the *Vaishnavas* and *Saivas* of the Peninsula ; especially of the ultra-classes ; as the readers of these reports cannot but have perceived. This book is also opposed to the *Advaita* system of *Sancarăcharya* and his followers : who deny the reality of any distinction between the Divine Being and the human soul. I have long wished to trace (these) depreciations, differences and oppositions, in a distinct Essay, which I think would be a subject of commanding interest and utility ; if performed by no better hand, I may one day hope to make the endeavour.

NOTE.—The manuscript is old, and has several leaves injured by wear, and partial breaking by reason of usage ; it wants only the first leaf which probably would only have the invocation and name of the translator. The commencement itself of the treatise is found ; some breaks in the coherency of the composition, arise, from the injury sustained. On the whole this is a document which I should like to see well translated : with moderate care it will last, as it is, for some years. It is entered in the Des. Catal. Vol. 1. p. 348. Art. 70.

7. *Vijaya-vilasa,* a Poem, No. 45. C. M. 462.

Reference to the five *Pandavas,* and to *Drăupadi* their wife. The adventure of *Arjuna* in recovering the stolen cow of a *Brahman. Arjuna's* pilgrimage to the great rivers in the Peninsula. Near the Godavery river he formed a loose marriage with *Uluchi,* a woman of an outcast tribe. Going to *Manipuram* (jewel town), a mutual attachment arose between him and *Chitrangada* the King's daughter ; a son being the issue of their marriage. After a circuitous pilgrimage, *Arjuna* went to the Court of *Crishna,* where he

married the sister of *Crishna*, by a stratagem ; much to the discontent of *Crishna's* elder brother *Bala-Rama*.

The work is not complete, the first three or four leaves are wanting at the beginning ; hence the Poet's patron, by name, is not now found in the book. His own name is stated to be *Vencata-Raja ;* who however may have had some other name, or title. The remains of the sections in the *Padya-cavyam* measure are found ; if complete, as I am told, the work contains six sections. The leaves, in the beginning, are broken off at the ends, the remainder is of fresh appearance, and in good preservation.*

8. *Samba-vilasam,* a Poem. No. 67. C. M. 404.

This Poem, in the *Padya-cavya* metre, relates to the adventures of *Sāmba,* a son of *Crishna,* who associated with the *Chengi*-people or wild foresters ; and ultimately carried off a daughter of *Duryodhana.* It is founded in a part of the *Bhāgavatam.* The author's name is *Vencata-ramana.* The beginning, and three following sections, are contained in this MS. ; but other sections are wanted to complete the work. It is old, and slightly injured by insects ; but not to any serious extent.†

9, *Kirātarjunya.* No. 28.

10. Same title. No. 83. C M. 379.

The subject of this Poem, in *Padya-cavyam* metre, is the penance of *Arjuna* near the *Himālaya* mountain ; and the battle between him and *Siva,* disguised as a hunter, which led to the obtaining, by *Arjuna,* of super-human weapons.

The two copies are very incomplete ; and, in consequence the writer's name does not appear, in either of them. In both

* Note.—It is entered in the Des. catal. Vol. 1. p. 343. Art. 65.

† Note.--It is entered in Des. catal. Vol. 1. p. 336. Art. 52.

copies, old and recent, leaves are mingled. They are in moderately good preservation, though with slight exceptions.*

11. *Andhra-sabda, Caumudi.* No. 33. C. M. 488.

This is a fragment of nearly seven palm leaves, of recent appearance, and writing, from what, if complete, would be a large Manuscript. The work properly is a rhetorical, or poetical, grammar, on the art of poetry. If this be the copy originally supplied to the collection, it is as gross a fraud as could be made; but since the appearance of the leaves and writing, indicate neither more, nor less than ten or twelve years, for its age, it is just possible, that it may be a fraudulent substitute at some recent period for the original copy.†

12. *Bassavana-Cālagnyānam,* No. 128. C. M. 332.

This Manuscript relates to the period of *Pratāpa-Rudra* of *Warankal*; apparently the last of that name, who was captured by the Mahomedans. But the chief subject of the book is to detail the progress, and success, of the *Vira-Saiva* sect, or ultra-class of *Saivas,* sometimes termed *Jangamas;* of whom *Bassavanna,* or *Bassavesvara,* was a distinguished votary, and minister of *Vijala-raja.* This sect proceeded on the principle of subduing, and exterminating, opposers by any means whatsoever; whether of force, fraud, or guile. Battles and slaughter are narrated in this work. According to the title of *Cālagnyānam,* or "knowledge of time," it contains statements, assumed to be prophetic, as given forth by *Siva* with regard to future events. This notice is very brief, and insufficient. Let me add therefore that, not so much with respect to history as to manners, it might be desirable to have a translation. It is written in rather elevated prose, is complete; and, on the whole is in tolerably good preservation.‡

* Note.—They are entered in the Des. catal. Vol. 1. p. 329. Art. 33.

† It is entered without any note of defect in Des. catal. Vol. 1. p. 354 Art. 5.

‡ Note.—It is entered in Des. catal. Vol. 1. p. 313. Art. 18.

b. Manuscript Books.

Manuscript Book, No. 4. C. M. 897.

In this thin folio, the 1st Section, containing rules for sale, and mortgage of lands, in Malayalam and Telugu, was abstracted under the head of Malayalam papers in a foregoing report.

Section 2. Rules embodied in verses on the authority of Pandits, in the Malayalam country.

Nothing answering to the section-heading appears; unless the interlined version in Telugu of the contents of the foregoing section in Malayalam be intended thereby; as possibly is the case.

Section 3. Account of *Rama-Raja,* the King of Travancore.

The writer records the substance of what he had gathered, from conversation, and from records.

He gives a detail of twelve Kings who ruled over *Venăttanad* (another name for Travancore) derived partly from books, partly from verbal enquiries.

1. In *Collam* era 588, *Kerala-kula Sec'hara-Perumal* being dead:

2. *Sec'hara-kula-sec'hara* ruled down to *Col.* era 636.

3. *Sancara-sri-vira rama martanda Perumăl* ruled to *Col.* era 685.

4. *Iravi verma Perumăl,* down to 742.

5. *Vira-udiya-martanda Perumal* down to 762. Having no posterity, he in *Col.* era 758 adopted.

6. *Martanda-raja,* who ruled down to 842. He repaired the fane of *Padma năbha-svami,* which had gone to decay. From his great age he was termed *kilava-murti.*

7. *Martanda-Perumal,* ruled down to 852, who, being childless, adopted

8. *Attankal-murti-raja.* He adopted a son from another tribe. He caused a large full-length likeness of himself, painted on cloth, to be placed in the fane of *Chandra St'ha-lam.* He also had the *Tiruvancotu-Calipanams* (coins) stamped in his own image. He ruled down to 875. He is said to have been treasonably killed by the device of some woman of the *attankal* tribe.

9 *Rama-verma-kula-sec'hara-Perumal,* who ruled down to 904 : he was succeeded by his son-in-law.

10. *Martanda-verma-kula-sec'hara Perumal,* who ruled down to 933. Some persons termed *Kunchi-tambi-mar,* and *Madambamăr,* plotted to take away his life, by means of poison; learning which he put them to death. In order to take away the guilt of doing so, he built 108 houses, as *agrahārams* for Brahmans; naming the said village *Ananta-samudra.* He carefully attended to the forts on hills, and passes, throughout his country. He also built 41 Choultries, or lodging houses, for travellers. He placed two pillars of gold and silver in each of the fanes of *Padmanăbha-svami* and *Crishna-svami.* With a view to secure the skilfulness of his successor, and to guard against any hostile attacks of neighbours, he made over the whole of the Travancore country, being 52 *kadams* in length, and the same in breadth, to the fane of *Ananta-Padma-nābha-svāmi,* commemorating the same by copper plate inscriptions in many parts of the country; and assuming to himself the title of "the slave of *Padmanābha.*" He was succeeded by his son-in-law.

11. *Padmanābha-dasa unchi-bala rama kula sec'hara Perumāl;* that is to say, "*Vishnu* the crown-jewel of his race, the local *Bala-rama,* and slave of Padmanābha," He ruled from 933 down to 976. Desiring to go on pilgrimage to *Ramêsaram,* he obtained passports both from the English,

and Willaet (Mahomedans.) He also raised troops on every side, to repel the invasion by Tippu-Sultan. Subsequently he chose two females as his wives, and was succeeded by the son of the elder of the two ; named

12. *Rama-verma kula sec'hara Perumāl,* who ruled from 973 down to 985. He was succeeded by

13. *Lacshmi raja rani*; who was ruling when the account was written. A genealogical plan of her family is given; some being dead, others alive.

Section 4. Genealogy of the *Keralatti sorubam,* or *Cherakal-rajas.*

The account commences with the *Cali-yuga* year 3549, and the rule of the eighteenth *Cheruman Perumal* in the fort termed *Cheruman,* who married two foreign wives. In *Cali Yugam* 3550, the Rayer invaded the country ; the son of one of the above wives, named *Udiya verma-raja* went and repelled the invasion ; and, in consequence, had bestowed on him a considerable extent of country as an inheritance. Three of his family ruled after him ; among whom, and himself, he had previously shared the province. But they afterwards requested him to govern the whole. Subsequent chiefs were subservient to the English, French and Dutch ; and at length became mere expectants for favor in a state of dependance.

Section 5. General sketch of ancient rajas in the Malayalam country.

Referenee to *Parasa-Rama* and his division of the entire country into *Tula-nád* and *Chera-nád;* and each of these into 32 districts, or 64 in all. He gave 10½ of these districts to 36,000 Brahmans, who were of 14 *gotras,* or tribes. *Parasu-Rama* gave them his weapon, and with it the sovereignty of the land. He retired to do penance on *Mahendra* mountain. The Brahmans who formed a great deliberative

council ultimately disagreed among themselves, and introduced a King from *Kaya-puram.* Eighteen Kings ruled during 198 Years and 8 Months, of which rule details exist (not stated in the paper). One named *Cherumán Perumal* was among them, and ruled 36 years with celebrity. He built many fanes, and made large donatives. It is found, by some old records, that he ruled about Cali Yugam 3500.

Section. 6. Genealogical account of the *Cheracal*-rajas.

This section repeats, somewhat more fully, the reference to *Parasu-Rama* and the *Brahmans.* It mentions his dividing the kingdom into three portions. *Tuluva, Mushica,* and *Kerala.* When the *Brahmans* disagreed they called in a *Chola* king. In other matters the details are very similar to those of the two foregoing sections : down to the gift of a principality to *Udiya-verma-raja.* Thenceforward the details are local. Some names of successors are given, and spaces for other names left blank. Downwards the details are but of minor importance ; yet merit being consulted. The paper, on the whole, is a rather interesting document.

Section 7. Inquiries and replies, relative to customs, and rules of adoption, in the Travancore, and *Cheracal* principalities.

These inquiries were propounded by Mr. Baber a judge ; and are evidently intended to obtain information on that intricate subject ; respecting which the local usages of the Malayalam country are peculiar. The contents are not capable of being abstracted, and have no material reference to the present object of research.

General Remark.—The first section was heretofore copied, and the second has since been restored ; in consequence of its being written on China paper, and the ink on two pages so pale, as to be with difficulty legible. The remaining sections are in good preservation.

Bala-Bhāgavatam, an epitome of the *Bhāgavatam.* No. 41. C. M. 296.

The contents of this moderate size quarto are the substance of the *Bhāgavata purāna*, in a poetical abridgment by *Conerińat'ha* son of *Nagaya mantri,* and of *Lacshmi;* the whole reduced to five *scandams* or books. At the close of each book, a summary of the contents is given. It does not appear requisite to repeat these in detail. Many of the stanzas are imperfect; probably owing to being copied from an old, and partially illegible, Manuscript.

Remark.—The volume is in tolerably good preservation. Insects have slightly attacked it; but, as yet, the injury is not serious. It will last long with only moderate care.*

Sacala-Cadha-sāra-sangraha, the substance of many tales. No. 9. C. M. 401.

The same in continuation. No. 10. C. M. 402.

The literal rendering of the little would be "the epitome of *all* stories." The contents are:

1. The account of the death of *Paricshit.*
2. The narrative of *Haris-chandra.*
3. The tale of *Nala-Chacraverti.*
4. The story of *Purucucsha.*
5. The adventures of *Purūruva.*
6. The narrative of *Bhagirat'ha.*
7. The history of *Kartavirya,* and *Parasu-Rama.*

Probably it may have been intended to add other narratives, as the work does not appear to be finished.

Remark.—Insects have somewhat injured No. 9. the other is very slightly touched. A little care only is needed in order to their preservation.†

*Note.--It is entered in Des. catal. Vol. 1. p. 280. Art. 27.

† Note.--Both books are entered in Des. Catal. vol. 1. p. 336. Art. 53.

Manuscript Book, No. 59. C. M. 49.

Section 5. Account of *Cota*-village.

The first formation of the village is dated in Sal. Sac 513. A reference to *Tondaman Chacraverti,* and his works at Tripeti. An individual became possessed with the spirit of an evil goddess, directing a fane to be built to her honor; which was done. Reference is made to the ascendancy of the *Jaina* rule; both here, and at Conjeveram. Under the government of one of those chiefs this shrine went to decay. The *Reddis* of *Telingana* acquired authority; and afterwards the *Vellugotivāru,* had the government. In Sal. Sac. 1380, some proceedings took place with reference chiefly to hierarchical buildings. The details which follow are not of any material consequence. At the close a list of buildings, groves, and reservoirs, is appended.*

C. CANARESE.

Manuscript Book. No. 14. C. M. 880.

Section 1. Account of *Sulekeravu* in the district of *Santebenur.* One leaf is wanting. The fragment begins with an account of the cattle of the district, and similar minor matters, of no consequence.

Sec. 2. Account of *Sante benur.*

The district was a forest, or wilderness, in the time of *Hari hara Rayen* of *Vijayanagarum,* which was cleared and cultivated. It continued a part of that kingdom down to the time of *Crishna Rayer. Vencana Nayak, Sita Ramasvami nayak,* and the latter's son, *Hanumanta nayak,* ruled as local chiefs. The fane of *Rama chandra* is an *anādi Sthala* (one without beginning) or a very ancient one. In Sal. Sac. 1519. a *tir t'ha,* or water reservoir, was excavated, near the said fane. In Sal. Sac. 1551 (A. D. 1629.) the Mahomedans having

*Note.—The paper or material of the book is in very good preservation, the other sections are in the Mahratti language; and have been abstracted under that heading in the proper place.

acquired power, threw down the said fane; and constructed a mosque from its materials. It was afterwards under Hyder Ali, and shared in the general results; needless to be particularized.

Another account of *Sule Keravu.*

The legend goes back to the time of *Vicramāditya,* in whose time a cow was observed to go to an ant-hill, to be eased of milk; which action arresting attention, the ant-hill was dug up, and "a self-formed emblem of *Siva*" was found, over which a shrine was constructed. An *amman,* or goddess, was wanting, and the King gave his own daughter. *Siva* came personally in human form, and was married to her. On mounting the car it moved of itself; and went as far as *Rama-giri* where it stopped. In the morning the newly married pair were found to be transformed to stone images; and the garments of the bride were lying on the earth: upon taking which up, and shaking them, gold coins fell to the ground in abundance; with which the goddess commanded a *Mandapa,* and water-reservoir, to be formed. In digging the reservoir an inundation occurred, which swallowed up a village; the inhabitants barely escaping with their lives; and the lake became one of wide extent.

Remark.—Such is the Legend, intended seemingly to account for the lake, which the word *keravu* denotes: the term *Sulē,* being a distinctive prefix. This paper only occupies two pages, in small hand-writing; and may pass current for all that it is worth.

Account of the district of *Pārur;* (not sectionized in the table of contents.)

Of old it was a forest. One named *Casya-rayen* cleared the land; built a town, and small fortress; established a police, and ruled there. His son was *Yellapa-nayak;* whose son was *Immadi rangahapa-nayak.* His son was *Vencatapa-*

nayak, who built a fane to *Tiru-malēsvarer.* His son *Casturi-ranghapa-nayak* was warlike, and subdued some neighbouring places. The descendants proceed as follows ·

1. Methivera nayak.
2. Chica methivera nayak.
3. Muddana nayak.
4. Chica nayak.
5. Barumapa nayak.
6. Methivera nayak.
7. Casturi ranghapa nayak.
8. Methevira nayak.

During the rule of this latter chief the Mahrattas from *Pūna* made an irruption, and established their own government. At a later period it was under the rule of Hyder Ali. Subsequent to the conquest of Seringapatam by the English, this district came under the power of *Crishna-raja-udiyar* of Mysore. It is mentioned that there are some large upper storied houses in the district, with much remaining forest land, and many wild beasts ; also that a superior kind of *Camblis,* or native blankets, were made, and sold, there.

Section 3. Account of *Pāvagudi* hill.

Three hundred years ago it was a wild forest, tenanted by tigers, and other animals. One *Sangama-rayeu* came from the *Rayer's* country, cleared some land, and built thereon a residence. The *Rayer* wished to take *Gutti,* but was unable to do so ; on which one *Pedda Balapa-nayak* volunteered his services, and succeeding by stratagem, established the *rayer's* power over that fortress. He was of the Herdsman class. He thenceforward had a post of trust confided to him ; together with a body of troops under his command. Such being the case, the aforesaid *Sangama-rayer* was guilty of cruelties, and other misconduct, which *Balapa nayak,* hearing off, went against him at the head of three hundred men, seized him, put him to the sword, and assumed the government. He built a small military post at *Mata-giri,* in consequence of its having the natural appearance of a snake. Soon after he heard of abuses and disorders, among the head people at *Pennaconda.* He went thither, and conquering those petty

chiefs, fixed his own power there. He wrote to the *Rayer*, who being pleased at the intelligence, came to *Pennacondà*, and specially honored *Balapa-nayak*, with a fine horse, and certain other distinctions. He also had him formally instituted to the Feudal sovereignty of *Pavugudi* in Sal. Sac. 1426 (A. D. 1504) and bestowed some additional territory. While so governing, *Balapa nayak* caused the fane of *Venu gopala svami* to be constructed. He had two sons; and was succeeded, after his death, by *Chinna Valapa nayak*, who ruled a little time, and then his younger brother named *Timmapa-nayak* succeeded him; whose son was *Balapa nayak*. The succession proceeded as follows.

Tatapa nayak ....his youngest brother.
Timmapa nayak.......son of the latter.
Balapa-nayak.
Timmapa nayak.
Tatapa nayak..........ruled 12 years.
Timmapa nayak.
Balapa nayak.
Balapa nayak.
Timmapa nayak........who was for a long time shut up in prison; but being taken thence and crowned, he ruled 24 years. He has three sons: the eldest was

Pedda-timmapa nayak, who ruled five years. He caused a water course to be cut; while he was ruling the Mahrattas came from *Pūna*, and took the place. It also came under the power of Hyder, and Tippu, and went with the subsequent transfer of dominion. The fort has eight gates: guns are mounted. It has four fanes of the *Saiva* class. There are also lofty houses; and wild beasts are in the neighbourhood. Blankets are manufactured, and iron is found, in the district.

Section 4. Notice respecting modes of Mahratti writing.

In the *Pāvugudi* district the Brahmans make use of the *Balband* characters in their sacred books. In ordinary secular transactions the common form of Mahratti writing is used. The *Balband* is used because the *Nagari* is reputed to *Deva-lipi* or divine writing.

Section 5. Account of *Mandana Misra.*

Sancarācharya was an incarnation of *Isvara.* He devoted himself to an ascetic life; travelled to many places; made many votaries and founded the *Advita* sect. An attempt, made by one of another sect, to have him assassinated was removed by the messenger relenting at the sight of so distinguished a man. *Sancara acharya*, went through the air, to the place of *Mandana Misra;* overcame him; made him one of his followers; and afterwards brought over his household, by means which are intimated according to the common statement; needless to be detailed; though important in its place, if the claims of a teacher who asserted the deity and the human soul to be one, and indivisible, should be thought to need any further evidence to adjust their merit and importance.

Section 6. Legend of the *Tungabhadra* river and of *Hari hara cshetram.*

There is a hill called *Vāraha parvatam,* from which one river flows westward, and another eastward: the latter being the above mentioned one. A legend is attached going up to the time of *Vishnu's* performing the *Varāha avatar. Tunga* and *Bhadra* are names of the two lengendary persons, given to two streams, which join, and thenceforward the river bears the name of *Tungabhadra.* It flows by *Sri-sailam* to the west, and then uniting with the *Crishna* river flows with it to the sea.

The legend of the *Hari hara* fane is attached; going up to the *Kreta yuga*, or earliest age. Its veracity and importance, are about equal. It may however be noted that the image is said to be very splendid, and on one side to present the form of *Vishnu*, and the other that of *Siva*. Hence it may be inferred that the shrine is one of some antiquity. There are eleven *sacred* pools, the names of which are specified ; with an indication of the benefits derivable from bathing in them.

Section 7. Account of *Chica nayakacota*, in Mysore.

A Fragment of four pages in the Telugu language. The said *Chica nayak* emigrated from the Guntoor district; and, by the favor of *Bāhgavati*, established himself in power at *Chitra durga* (Chittle droog,) where he built a small fort, and thence subjugated the surrounding country. He ruled 12 years. His son *Baramapa nayak* governed 24 Years. The son of the latter was *Hari methivira nayak*, who went against *Sante Benur* ; but was repulsed by the chiefs of that neighbourhood. Returning to his own fort, he had some guns, and other matters very carefully prepared, and going again to the assault, captured the place ; but the dispute was settled by the chief giving his daughter in marriage to the assailant ; who next proceeded to attack *Raya durga* (Roydroog), *Murari nayak*, with some troops, made him raise the seige. After six months he came back, and massacred several persons, which raised the population against him ; and these beat him, and drove him away. His son was *Casturi nayak*, of whom it is only recorded that he massacred all the women in the interior of the palace. The times of Hyder Ali succeeded ; and the fragment breaks off ; a leaf or two appearing to have been torn out of the book.

General Remark.—The contents of this book are of but very moderate, and local, consequence. However, exclusive of further elucidating the childishness of superstition, they

throw additional light on the troubled internal state of parts of India; where any one, who could succeed in placing himself at the head of a band of robbers, soon became a chieftain, and a terror to all around. It is a preparatory period of mercy to India to be formed into one grand empire; wherein such depredators dare not, and cannot, appear. Whatever may remain to be remedied, the blessings of internal peace, and regular government, ought not to be lightly estimated. It is a means towards an end, of still higher consequence.*

Manuscript Book. No. 37. C. M. 530.

Bhuvana cosa, a system of *Hindu* geography.

An account of the *Pauranic* system of the world; intermingled with notices of individuals, also recorded in the *Puranas.* The book is not complete; but it is, on the whole, in tolerably good preservation.†

Suca-saptati, or tales of a Parrot.

This book requires no other notice, than simply the mention, that its condition is not good. It is complete. The writing is legible, and will long continue so; but the paper has been heretofore repaired. It does not require further attention.‡

Manuscript Book. No. 8. C. M. 874.

Section. 1. Account of *Jamālabad* in Mysore.

In the *Kreta yuga,* the hill was known; and *Brahma* gave some gifts to *Somacāsura* and *Dhenucāsura,* on their performing penance there. Being *asuras* they took away the *Vedas,* and hid them in the sea. Hence the *Matsya avatara.* Reference to *Parasu Rama,* in the *Treta yuga,* when the hill

* Note.—The condition of the book is not very good, but it will last, and remain legible for many years to come; the abstract given is rather full; and it does not seem, for the present, to claim restoration.

† It is entered in Des.: Catal: Vol. 2. p. 35. Art. 42.

‡ An entry occurs in Des: Catal: Vol. 2. p. 59. Art. 15.

was rescued from the sea ; and to the five *Pandavas* in the *Dwāpara yuga.* In the *Cali yuga* the name of *Mayura verma* occurs ; and his location of new Brahmans in his dominions is noted. An amazing transit is then made to the time of Hyder Ali ; the object of the writing being only to give an account of the hill, not of history. Tippu Sultan built on, and fortified, the hill. He placed it in charge of a killadar. It received from him the name of *Jamālabad,* its ancient name having been *Sandacùr.*

Section 2. Account of *Sringeri* the monasterium founded by *Sancarācharya.*

Reference to the pauranical admeasurement of the world ; and to lower, and to upper worlds. Boundaries of the *Dwipas.* A long detail of legendary matter follows ; being chiefly tales from the *Puranas,* of no other reference than merely to introduce the mention of a *rishi,* who made this the site of penance, whence it came to be called *Rishisingapuram ;* but in ordinary Canarese usage it is now termed *Sringeri.* In the *Cali Yuga* the incarnation of *Sancarācharya* took place. He established the monasterium ; and some mention is added of similar places also founded by him.

Section 3. Account of rivers in the *Nagara*-district.

A few details of the rise, course, and termination, of four or five rivers, and legendary account of their origin.

Section 4. Account of the *Nagara*-district.

A list is given of a district chief, and his descendants, down to the time of Hyder. There are no events, but merely names, recorded ; and the name of *Basavapa nayak* and *Chinna Basavapa nayak* recur, in almost constant alternation. The list does not seem to me of much authenticity. There may be a foundation of truth ; and it would seem that these chiefs were all of the *Jangama* clase.

Remark.—The two first sections are written on good French paper, with pale ink : the whole is in very good preservation.

The remaining sections in the book are all in the Mahratti language and character ; and have otherwise been attended to in a preceding Report.

Pūrātana-ragala, or ancient devotees.		No. 23. C. M. 499
	same title	„ 24. C. M. 500
	Ib.	„ 25. C. M. 507

These books relate to the life, and remarkable actions, of sixty three especially distinguished votaries of the *Saiva* sect, in high esteem with the *Vira-Saivas.* In Tamil the work is entitled *Periya-puranam,* or the great legend. As a sufficient notice, or abstract of that *puranam,* will be given from the Tamil, any further specification of these books is not required. The general outline of contents in both is the same.*

D. MAHRATTI.

Manuscript Book. No. 59. C. M. 749.

Section 1. Account of *Sri-hara cota* in *Telingana*: Derived from verbal accounts of the *Carnics,* and other revenue officers. Anciently it was a forest. Legendary reference to *Trisancu,* a king of the solar race ; to whom the first building of a town is ascribed. Mention of *Pandurangha* fane, to which a sea shell annually went by a subterraneous passage from the sea, yielding certain sounds ; and attended with fabulous circumstances. Great rewards being offered for the shell, it was at length found. As a result the sea-king being incensed, sent a flood which destroyed the town of the other king aforesaid. People say that beneath the waters the remains of a town can be seen. Further account of the deri-

* Note.—The books are in good preservation, they are entered in Des. Catal. Vol. 2. p. 26. Art. 22.

vation of the name. The Mahomedan rule of the country is adverted to. It is added that a *Saiva-fane,* and a *Vaishnavā*-fane, are situated in this locality.

Remark.—The legend seems intended to account for the Pulicat lake.

Another account follows, relative to the same place. In this *Rama* and *Hanuman* are mentioned, and the bridge connecting the continent with Ceylon. The purport of the tradition is to commemorate an inroad made by the sea on the Coast.

Section 2. Account of *Muga-raz-patnam,* in *Telingana.*

Verbal account from the *Carnic.* Reference to the reign of *Druhva,* who is made to visit Vellore, and to have established the town of *Mugaraz.* Many came to it, in trading. The name of *Sada siva rayer* occurs in reference to a local change. The place afterwards was under the Mahomedans of Golconda. A detail is given of towns, and forts built by different Kings. All have gone to decay. *Timma raz* had them restored. Little else of importance appears; previous to the mention of the rule of the Hon'ble Company.

Section 3. Account of *Vendanapuni.*

It is three miles S. of Nellore. Reference to the formation of the *Svarnā muc'hi* river by *Agastya.* All seems the merest legend, down to the mention of *Tondaman-Chacraverti,* who as herein stated in *Sal. Sac.* 518. (A. D. 696.) had the neighbourhood cleared and built a town with a fane; wherein all usual appointments were made, and the customary observances followed.

Remark.—The above date is of importance. It is later than other accounts mention, but very probably near the truth.

Section 4. Account of *Guda-liki.*

Anciently a hill, near at hand, was called *Bhimēsvara*; and thereat *Brahma* performed penance. *Rishis* resided there. The name arose from the junction of the *Svarna-muchi*, and *Bhimanadi*, rivers at this place. Nothing further occurs of the smallest consequence.

Section 5. Account of *Cota* village in *Telingana.*

This section is in Telugu, to be noted in another place.

Section 6. Account of *Mālpatnam* in *Telingana.*

A dispute occurred between *Brahma* and *Subrahmanya*; in consequence of which the latter took from *Brahma*, his implements of creating, and himself set about doing the handy work of a creator, at *Sesāchala* (Tripety), with the said implements. *Brahma* preferred a complaint to *Siva*; who decided that it was proper for every one to attend to his own work; and directed *Subrahmanya* to return to *Brahma* his implements, and to leave off creating.

The name of that place was *Vinacāvanam*: it was a wilderness where *Mālāsura*, *a rācshasa* did penance to *Siva*, and obtained the boon that he should not be liable to be killed by any one, either by day, or by night; with the privilege of conquering all with whom he might wage war. After obtaining such a boon he greatly molested the ascetics that dwelt in the wilderness; to relieve whom *Subrahmanya* came, and killed the said *Mālāsura*, in the *Sandhi*, or short twilight interval between day and night; not however without first complying with a request proffered by the *asura*, to the effect that a fane should be built there, bearing his name. Some time after the *Chola-raja* came to that neighbourhood, and directed the forest to be cleared, which was then thickly set with bamboos. One day, when the

workmen were engaged in cutting away the wood, blood copiously flowed, consequent to their doing so in a certain place; inducing them to leave off, and report the circumstance. The King came in person to investigate it; and, on looking further, an image of *Subrahmanya* was found to have been grown over by the wood, having its arms cut off, from which blood flowed in profusion. Efforts were made to deprecate the anger of the god; a vision of whom appeared to the *raja*, instructing him to build a fane on that spot, and to call it by the name of *Mālāsura*; which was accordingly done. *Visvacarma* superintended the work: and a *Mandapa* built there was so particularly handsome, that people who came from Conjeveram wished to have it removed thither. A young man, the son of an architect, engaged to effect this transit, and had prepared a machine for the purpose with some horses; but his father learning the design, cut off the horses legs, and so the *Mandapa* remained immoveable.

At a later period when the fanes at Conjeveram had gone to decay, and all allowances to them had ceased, *Sancaracharya*, having become incarnate, formed an image of clay at that place, and appointed certain observances; which were effected chiefly by means of the tribe of weavers. It is said that the original shrine is neglected; and that formed by *Sancaracharya* alone honored.

After the Mahomedans had acquired power at *Vencatagiri* they came hither, and learning the celebrity of the fane of *Subrahmanya*, under the name of *Mālāsura*, they gave it jaghirs, or gifts of land. There are some inscriptions; which however could not be successfully read or copied. Tradition stated that they commemorated grants by *Chola-rajas*.

Remark.—This paper, with its fabulous wildness, contains one or two points worth attending to; the document is in extremely good preservation.

Section 7. Account of commercial ports, and factories, on the coast.

This section merely contains the names of some obscure places, in the Nellore district, where trading used to be carried on by vessels; with the nature of imports, and exports, and mention of places to which export were made.

Section 8. Division of the Carnatic.

A list merely of the names of 112 places under the title of "pergunnahs," into which the Carnatic, in revenue matters was divided.

Section 9. Statements of Revenue.

This is merely a statistical memorandum of the revenues of the Arcot-Soubah, or kingdom under the Mahomedans.

Section 10. Duties of various offices.

A mention of nine official situations of revenue, or police, under the Arcot-government, when mahomedan: with a definition of the duties attached to each office.

Section 11. "General history of the Carnatic by the *Muzamdar*," (or accountant of the country.)

This title is copied from the hand writing of Colonel Mackenzie. It has a reference to some very early matters; with a legendary story to account for the existence of the *Dandacaranya,* or great Peninsular wilderness. A transit is made to Rama, and his son Lava. Some matters, lower down, are adverted to; the authenticity of which may be estimated by *Salivahana* being made to follow the *Chola rājas.* The *Rāyer* and *Yādava,* dynasties are mentioned, as also the transition of power to the Mahomedans, and finally to the English.

REMARK.—The document does not seem of much consequence, nor yet to have been drawn up with much attention to accuracy. The above outline is very brief; but the paper remains in good preservation, for further reference, if thought at any time desirable.

E. MANUSCRIPT BOOKS OF MISCELLANEOUS INSCRIPTIONS.

There are several of these books in the collection, containing copies of inscriptions in two, three, or more languages; so as not well to allow of being arranged under the usual order of my reports. By consequence they are here placed as a distinct subdivision, according to language. The order will be Persian, Mahratta, Canarese and Telugu.

1. PERSIAN.

M. S. Book No. 9, C. M. 978. *Ancola* and *Gokernam* Districts.

1. Dated 1044—Hegira. A *firman* addressed to Cazi Ahmed, assenting to the request of the said Ahmed, who had stated that, in consequence of his own great age, he wished his situation to be given to his son Taj u'Din Mahomed. Issued by a Divan whose name is not in this copy.

2. *Firman* of a Divan addressed to the inhabitants of Agra, dated in 1068—Hegira. It directs that all things, as before observed in the fame of *Rama-chundra,* be continued; and is perhaps a renewed grant, at the commencement of a new reign.

3. Order of Sultan Mahomed Padsha to the Amil, or Collector of Agra, to renew a Sunnud, or grant, as before customary, for allowances to a Mosque. Dated in 1079—Hegira.

4. Dated in 1077—Hegira. Order to continue a charitable grant of 124 huns, arising from a village, to a person mentioned; descending to his children, and grand children.

5. Order to an Amil in 1088, to continue, as before, all allowances customary to the Ramani Mosque, in charge of Hafiz Mahomed.

6. Another copy of 1. addressed to Cazi Ahmed.

M. S. Book No. 13. C. M. 982. Nellore and Vencatagiri Districts.

1. Dated 1002 Hegira—Order of Asuph u Dowlah Syed Mahomed Khan, Mahomed Alemguir Padshah and Mir Hussein Khan, addressed to *Bangura Yachama Nayadu, raja* of *Vencatagiri,* directing him to collect, and forward the entire tribute of that principality; amounting to seventeen lakhs, seventeen thousand, nine hundred and five *Daums* (a kind of weight) which *Cumara Yachama Nayadu* had neglected to transmit in due time.

2. Seal of Asaph u Dowlah, conferring a title with an office on *Bangara Yachama Nayadu.*

3. Seal of Asaph u Dowlah Amir of Inde; a letter to *Cumara Yachama Nayadu* of *Vencatagiri* condoling with him on his father's death; assenting to his succession to the principality, with an injunction, requiring careful obedience.

4. Order of same on the death of *Cumara Yachama Nayadu,* conferring authority, and the succession upon *Bangara Yachama Nayadu.*

Sundry items and memoranda follow of very minute details, as to pergunnahs, and revenues.

M. S. Book No. 32. C. M. 1001. *Sedhawattam* in the Ceded Districts.

1. Date of death of Bismilla Shah (in 1186—Hegira) the head of a company of Mahomedan mendicant devotees.

2. Dated in 1181 as that of the building of a mosque, and

of another, in the time of Nabob Abdul Mazid in 12-4. Another in 1114—Hegira.

3. Confirmation by Nabob Sadut ulla Khan of a grant in the pergunnah of *Sidhur,* to a Derveish and his family. Dated in 1143—Hegira.

4. Another copy of the same document.

5. Title of an agreement in the name of *Rama Crishna ;* a memorandum.

6. Order to the Amils of Balaghat from Nabob Hakim Mahomed Nabi, to permit *Papa Rao* to bring certain waste lands in *Sidhur* into a state fit for cultivation. Dated in 1776.

7. Date 1183 of the building a mosque in the fort of Cuddapah; in the dominions of Alemguir.

8. Date 1130 of the building of a mosque, by Nabob Bahalul Khan.

9. Date 1149—Hegira, as that of the death of Ameen u Din Shah.

10. A few loose names; scribblings by individuals, like those more or less common in all countries. The dates 1109 and 1159 appear attached to three names.

M. S. Book No. 38. C. M. 1007. *Garamconda* in the Ceded Districts.

A Parvannah, or order, from Sadat ulla Khan relative to the fane of *Ekambésvara* and *Cámácshi* at Conjeveram, empowering one *Acasa Bhonji* to collect the revenues from lands made over to the said fane ; and, after paying all needful expenses, to hand over the balance to the revenue manager of the district, with a strict injunction to all inhabitants of the neighbourhood, to respect the orders of the said *Acasa-Bhonji.*

M. S. Book No. 42. C. M. 1011. Cuddapah.

A Parvannah of Nabob Syed Khan under Alemguir Padshah; a tract of land, of the annual value of two crores, confirmed in the possession of Sheikh Makhdum.

M. S. Book No. 27. C. M. 996.

1. Order from a king (name not mentioned) to a military chief, dated in Hegira 1092, giving a commission, and instructions, with reference to an accompanying counsellor.

2. Order of Nizam ul Mulkuzuph jah, to discharge a servant, and to put Syed alla u din in his place, dated 1206. Hegira.

3. Dated 1140.—Hegira. Abdul nabi khan gives an order to *Malla-reddi* directing him to keep a proper watch over a certain district, and to apprehend the robbers by whom it was molested.

4. Order to *Malla-reddi* to collect the revenue; and to see the army supplied.

5. Order to *Verd-reddi* to collect the sum of 355 *huns,* in the district of Ginjee.

6. Order to *Malla-reddi* to regulate the needful matters at Singhapatnam.

M. S. Book No. 28. C. M. 997.

1. Dated in Hegira, 1152, order from a Khan or chief, to the Amil (or Collector) and inhabitants of Ginjee to give possession of a certain extent of land, to the daughter of a derveish, after the father's death.

2. Order from the same, to the same; to make over to Budr u din son of Sheikh Mahomed, a garden and a mosque, which had been held by the father in the fort of Ginjee.

3. A memorandum respecting a transfer of property, situat-

ed in, or near, the same fortress.

4. Also an unimportant document relative to a transfer of land in the neighbourhood of the same place.

5. Order to give some ground; the proceeds to supply oil for a mosque.

6. Dated in 1117. Fusly. An order in two languages respecting transfer of land to be given in free tenure.

7. Order of Zulfecar Khan to the commander of Ginjee, to supply needful matters of expenditure in a mosque, chargeable on the revenues of a village.

8. A revenue grant to the Cadi of a mosque, dated in Hegira 1184.

9. Order of Tippu Sultan to the commander of Ginjee to supply 80 huns from a certain revenue, to the revenue officer, and to give all other proceeds for the maintenance of lights on Friday, in a large mosque.

10. Deposition of witnesses that an individual possessed a grant which he had since lost.

11. Order to make over a certain extent of land, the proceeds to supply oil to a mosque for lights.

12. A similar order, relative to a village mosque.

13. An appointment of an individual to be Cazi of Candicotta.

14. Order of Zulfecar Khan to supply one rupee daily to a Cazi, named Mahomed Hussan.

15. A precisely similar order.

16. A similar order, dated Hegira 1134.

17. Order to transfer the allowance of Mahomed Hussan (No. 14.) to his grandson, dated Hegira, 1177.

18. Order to give land; the proceeds to supply oil for a mosque dated in Hegira 1186.

19. Agreement by *Raja Chandu-lal*, in the name of another person, to cultivate certain lands carefully, and peaceably to render in the revenue due thereon.

20. Order of a Padshah to the Amil of Candicotta to give a certain village district, in lieu of another one, which had been assumed; the order is in favor of Mahomed Derveish, son of Sheikh ali. Dated 1074.

21. Gift of twenty bigahs of land to Sheikh Mahomed Derveish conformably to his petition, to supply lights to the mosque.

22. Order of Satkhan to give a small piece of land to a person that had the charge of keeping the mosque, in Rajpallam. Dated in Hegira. 1149.

23. Order to give a portion of land in the said village of Rajpallam, to Mahbu Ali Derveish. Dated in Hegira. 1164.

24. Direction to repair certain water reservoirs, and fit them for assisting cultivation. Dated in Hegira. 1149.

25. A similar order relative to tank repairs, and directions to give a fourth part of proceeds as tax to the revenue. Dated in Hegira. 1157.

26. Order to give fruits of a specified garden to Rosham Khan. Dated Hegira. 1162.

27. Commission to the said Rosham Khan to be commander of a fort and troops, from Mahomed dil Khan, servant of a Padshah. Dated in Hegira. 1122.

28. Order of Mahomed Khan, in the kingdom of Bijapur, in favor of *Raghavachary*, giving to him a piece of land. Dated in Hegira. 1127.

29. Order to take annually seventy huns, as a tax from *Nanachary.* Dated in Hegira. 1152.

30. Order of Zulfecar khan in favor of *Tāttācharya,* giving a grant of land for his subsistence.

31. Order to give a revenue of 125 huns to *Tāttācharya* from a village. By whom given not stated. No date.

32. Restoration of a former grant in favor of a *Brahman,* directed to be made by the assistant of *Chandu-lal.* No date.

M. S. Book No. 33. C. M. 1002.

1. Order of Tippu Sultan, to give a village to *Binachary* in the Cuddapah District, on the condition of his paying an annual tax of twenty huns.

2. Relates to Madras. Purports to be a promise from the Governor to *Mallapa-nayadu palliycarer,* to restore to him certain patrimonial lands, on condition of his accompanying the army sent against Mysore, and obeying the order of the English General; the restored lands to be subject to a tax. Dated in Hegira, 1305.

3. Order to supply one fanam daily to a heathen fane at *Vencatapur.* Dated in Hegira, 1214.

4. Dated in Hegira—1277. Order confirming a former allowance of two fanams daily to the same fane.

5. Commemorating the building of a mosque, in order to dissipate heathen superstition. Dated in Hegira—1128. It is a writing on the wall of the mosque.

6. Donation, by *Alemguir* to *Mallapa-Náyadu,* of certain proceeds from a village. The order is directed to *Ananta rao*

7. Gift of an office to *Kistna* Pandit.

8. The said *Kistna* Pandit is ordered to pay annually one hundred *chacrams*, as a tax on a village which had been made over to him: Dated in Hegira—1144.

MAHRATTI.

M. S. Book No. 9. C. M. 978.

No. 6. At the town of Mirjaun: copy of a revenue letter, or order, directing one *Maniji-rao-Ganapati* to pay up arrears of tax, or tribute. Dated in Hegira—1104.

No. 7. At Mirjaun. A reply apparently to the foregoing, stating, that 40 huns are sent out of the 200 due.

Copy of Inam, or deed of gift, from Sadu Rustam Khan, a servant of the Visiapur Padshah, making over land to *Crishna Bhat,* son of *Narayana Bhat,* dated in Sal. Sac. 1578.

The *Nayak* of Angola with his tribe made over certain allowances for food and support to *Crishna* an astrologer. Dated in Sal. Sac. 1561.

Two Hindu *employés* of the Visiapur Padshah, built an *agraharam* for *Crishna Bhat,* an astrologer, and along therewith gave to him land, producing a yearly revenue of 54 huns. Copy of the document was written in S. S. 1571, and transmitted to the Padsha.

Certain *Congani Brahmans* of the Angola province, having met in council, agreed to build a *matam,* or residence, for their preceptor, *Yedhesvara,* and to purchase some land to be attached to it, to provide ordinary support for the preceptor, and his pupils: apparently a miniature college. The copy was written by *Ibrahim Khan* in Sal. Sac. 1521. The document is Canarese, in the Mahratti character.

Copy of an inscription from the fane of *Mahabaleshvar,* recording a donation of land made by *Singaiya Pant,* to the

daughter of the *Peishwah*. The date given is Sal. Sac. 1738. The language is Canarese, with Sanscrit *slocas* intermingled: the whole written in the Mahratti character.

M. S. Book No. 38. C. M. 1007.

1. Copy of an order from the Cuddapah Nabob, directing Abdulla Ali to discharge the duties of provincial Subadar; specifying the amount of revenues, the same to be collected without molesting or injuring the inhabitants; with expressions highly complimentary to the person employed, dated Fusly 1170.

2. Investiture by the Cuddapah Nabob of *Vencata-rao* to the office of Mirasidar, or proprietor of *Siddhawar*, dated Fusly 1186.

3. Same date; corresponding order to the inhabitants of *Siddháwar*, informing them of the appointment of *Vencata-rao*, and directing them to obey him.

4. Accompanying order to the Subadar of the district, directing him to see that no arrears should be allowed to accumulate, by the said *Vencata-rao;* but that all balances should be regularly paid.

5. One Rustam Khan having resigned office, the Nabob directs Jemmadar Bhai to look to the case; and give to the person resigning (pension as supposed) according to custom.

6. The Cuddapah Nabob directs land to the annual value of 34 *huns*, to be given to Syed din Khan, in approval of his faithful services in the revenue department. Dated Hegira 1186.

7. *Vencata-rao* having represented that certain lands which had been granted to his ancestors as *Purohita Brahmans* had been seized, the Cuddapah Nabob writes to Mulamir Saheb, directing him to investigate the matter, and to restore the

said lands according to former usage. Dated in Hegira 1119.

8. Dated in Fusly 1172, an agreement from four persons to rent certain lands, and to pay, to the capital, the tax; or tribute thence arising, to a greater amount, and more faithfully than had been before done.

9. A farmer under the Cuddapah Nabob writes to his agent, or steward, to remit balance due on the *Velur* talook. Dated Fusly 1174.

10. The same person writes to two other factors, ordering them to pay up arrears due.

11. The same person gives instructions to spend 25 *huns* for the construction of a *Cshetram* (or *serai*) for travellers.

12. Order to give some lands as an endowment to the said *serai*, in order to supply it with food. A person is nominated to superintend the charity.

— Order of *Baji Rao* and *Raghanat'ha* addressed to *Sesāchala-nayak*, directing him to go and assume charge of *Garamconda* village, and to remit its proceeds amounting annually to 3,500 Rupees to the said Mahratti rulers. Date of month; but not of year.

— From the same to the same. Stating that his message sent by an individual named, had been received and understood; assuring him that false representations against him had not been attended to; instructing him to go on with his duty; and if he had any thing very special to state, he might personally come to their court and detail it before them.

M. S. Book No. 27. C. M. 996.

A commission from *Baji-rao* and *Raganatha*, dated from Poonah, giving the village of *Gutivigam*, as revenue charge, to

Narayana-rao, and directing him to collect, and remit, the proceeds arising therefrom.

— Order to the villagers of the same place to obey *Narayana-rao,* as Revenue Collector.

Receipt from *Madhava-rao,* Treasurer to *Narayana-rao* aforesaid for 3,000 Rupees, which had been paid into the Peishwa's treasury.

M. S. Book. No. 28. C. M. 997.

— Commission from *Baji-rao* to *Sesāchala Pant* to discharge the duties of Subadar of the district of *Cudakol.* Date of month, but not of year.

— Specification of accounts from *Sesachala Pant,* and two other persons of the Cuddapah district. Sent into the government of the day.

— Grant of the village of Jemmalabad to one named Hussein, dated in Fusly 1180.

— Informations to inhabitants of the said grant.

— Gift of land from Mahomed Shah to a Brahman dated in Fusly 1182.

— Gift of *Mapul* village to *Srinivasa Brahman,* with the condition of paying one fanam out of every three fanams to the Sircar, or Government.

Gift of some lands, to the same individual, in free tenure.

— Gift of land to *Kishna Pundit* from *Vencata-rao,* dated in 1188 Hegira.

— Order dated Hegira 1128, addressed to an individual, directing him to collect and transmit certain arrears which had fallen behind in the district of *Pembavapettah.* Issued by the Visiapur ruler.

— Order from Visiapur to the inhabitants of *Pembana* village, to pay up all arrears to *Raghunatāhāacharya.*

M. S. Book. No. 33. C. M. 1002.

1. A revenue order providing that *Bhimācharya* should pay a quit rent of 25 Pagodas for the village of *Mallapālayam,* held by him in tenure. Dated in Hegira 1151.

2. Dated in Hegira 1193. Gift by Nabob *Mirali* of two villages to *Seshapa,* for services rendered in the management of revenue.

3. Dated Hegira 1190. Gift of land producing 50 Pagodas annually by *Anaverdin,* a Nabob, to an inmate of his household to supply flowers.

4. Order to a Hindu to pay 35 Pagodas to the government, from the revenues of a village.

5. The *Peishwah* directs that on occasion of all marriages one Rupee shall be paid, by the parties to a fane of *Narasimha-svāmi ;* ordered in consequence of a representation from the hierophant, of a deficiency of sacerdotal supplies.

6. Order from a treasurer to a tenant, telling him to pay the 12,000 Rupees due, and obtain a receipt ; and that nothing further was necessary.

7. Reply to a representaion that owing to want of rain, a tax of 1,200 Rupees could not be paid : the reply directs that the sum be paid ; not all at once ; but by two or three instalments.

8. A new order on the same subject.

9. Order for the transfer of a village to another tenant from the *Peishwah.*

10. Gift from the *Peishwah* of two villages to Meramudin.

11. Order to collect tax and pay it into the public treasury.

12. Summons to an individual to appear in "the presence;" in consequence of a defalcation in the amount of collections.

13. Directions to the same individual to meet *Raghunat'ha-rao* at *Garumconda.*

The whole of the remaining contents, in the Mahratti language, have been gone through; and carefully examined; but as they offer nothing more important than the preceding minutiæ, it seems useless to write them out in detail. The only exceptions are the gift of two *agraharams,* as of some consequence; and an order from Tippoo Sultan to make an allowance to the fane at Tripeti; but even these are not subjects of magnitude. The book is very incorrectly labelled "Ancient Inscriptions, illustrative of the Hindoo history of the South of the Peninsula;" and the title inside "52 Grants in the Cuddapah Tukcdi of the Ceded Districts," is only a little less free from exception. At some period there must have been some fraudulent design to *magnify.* The book is a little damaged by worms; but the entire contents appear to be of very little consequence.

M. S. Book. No. 43. C. M. 1012.

This book is labelled like the preceding one, and inside "204 Grants in the *Chamur* district." The larger portion of the contents is in Persian and Canarese. Small portions in Mahratti are scattered throughout; and they relate to trifling matters. Such things as the grant of one Rupee weekly to a Mahomedan ascetic; of two annas daily to another; and of one fanam per diem to maintain lamps in different mosques, are the prevailing contents. A few grants of no great importance appear. The whole relates to Mahome-

dan transactions, with Mahomedans, or with Hindus ; and the parsimony of Mahomedan donations compared with those of Hindus to their own idols, as seen in inscriptions before reported, is very apparent. There are some orders, (or Sunnuds) authorizing certain Hindu astrologers to receive eight *pice* daily ; in other cases half a fanam daily. A receipt is prescribed to be taken.

This Book is in an extremely good state of preservation.

The Canarese portion of the contents are yet to be reported.

M. S. Book No. 44. C. M. 1013.

A similar label, and entry. The contents are chiefly Canarese. There is a little Mahratta : as follows,

1. Dated in Sal. Sac. 1670. Gift in free tenure of land to the value of 25 Pagodas annually from the *Senāpati,* or general of the *Peishwah,* named *Madhava-Rao,* to a Hindu named *Vencata Bhatt.*

2. Order from *Baji Rao* to give, in a specified instance, a marriage portion according to the custom of antiquity.

3. Order from the *Sidhavur* capital to give to a Brahman, an estate producing 100 Pagodas annually.

4. A similar order, from the same place to give to a *Sudra*-Jemmadar, an estate of 50 Pagodas per annum.

5. Corresponding orders with the two last, certifying the same to villagers, and others concerned.

M. S. Book No. 41. C. M. 1010

This Book, with like label and inner title, is much damaged. The greater portion of the contents is in Canarese ; but there is some Mahratti. The whole of this last has been care-

fully examined; and is found to contain grants, for the most part in free tenure, to individuals; usually worth about 50 Pagodas *per annum.* This being the uniform character of the grants, any minute specification, of matters of such small consequence, is not required.

M. S. Book No. 45. C. M. 1014.

Like label and title. The Mahratti forms but a part only of the contents, with a few grants of similar character to those just indicated; the remainder is occupied with agreements, and transactions of *Sayers,* or petty renters, and farmers, of ordinary commodities. They claim no detailed notice.

M. S. Book No. 11. C. M. 980.

Like label; and the title inside refers to the Mysore country. About half of the contents of this Book are in Mahratti. In one place a grant, by *Sada Siva rayer* in the latter part of the 16th century, is mentioned. In another place a modern grant by *Raja Crishna* Udiyar of Mysore, and the building a fane, with the customary donatives, by *Purnaiya* his minister of state, are recorded. These are the most important. There is mention of the foundation of a few *Brahman's* alms houses; but the greater part of the matter is a sort of revenue correspondence, in the details of collecting and payment; with occasional letters of threatening, or dismissal, for non-payment. The whole of this latter part either refers to the Sultan government (that of Tippoo) or to the subsequent adjustment of the country. This notice of the Mahratti contents may suffice. The whole has received an attentive investigation, before forming this opinion. The paper of the book is a little damaged by insects.

M. S. Book No. 17. C. M. 986.

There are only three small leaves of Mahratti writing in this book; and the contents relate solely to the petitions of four

individuals, to have lands restored to them, which had been seized. One estate was worth 50 Pagodas annually, and one worth only five. Their claims were conceded.

M. S. Book No. 30. C. M. 999.

There is only a little Mahratti scattered through this book, and the subjects of these brief notes are transactions of Mahomedan chiefs and managers, in matters of local revenue. One or two foundations of *Brahmans*-alms houses are mentioned; and are the most important part; but the whole amounts to very little. The book is in good preservation.

M. S. Book No. 26. C. M. 995.

There is a little Mahratti writing at the end of this book, which on examination proved to be only copies of letters on revenue subjects, under the government of the Mahomedans. The letters are from revenue officers, addressed to renters or farmers on minor topics; and, by no strain of words, can possibly come under the discription of "Ancient Inscriptions illustrative of Hindu history &c.," endorsed, as in the preceding cases, on the outer label. In most of the preceeding instances, such a title is much too magniloquent.

M. S. Book. No. 2. C. M. 971.

This is the second of the series so endorsed, it is a superior folio. About one fourth towards the end is in Mahratti, and contains copies of Inscriptions, which however relate entirely to the Mahrattas, and are of modern times, as well as of trifling moment. The first of the series is dated Sal. Sac. 1693. (A. D. 1770) and records that Meer Sahib had investigated, and restored, certain rights granted by Mahrattas, previous to his authority. What follows, prevailingly, has no other date than that of the day and month, and relates to small grants by *Sambaji*; by the *Peishwah* or *Simantar*; lower

down the date Sal. Sac. 1625 (A. D. 1703,) occurs; and these two dates of years are the only ones met with. The matter of the different inscriptions, chiefly relates to grants of land to individuals, either for military, or revenue service. The Mahrattas do not appear to have cared much for shrines, or fanes. What they gave seems generally to have been for something either received, or expected, of a tangible, and secular, character.

HALA CANADA.

M. S. Book No. 9. C. M. 978

Inscriptions in *Ancola* and *Gokernam* districts.

1. Dated in Sal. Sac. 1661. Gift to the fane of *Viknesvara* at *Upina patnam,* both of money and lands by *Appaji nayak.*

2. No date of year. *Vira Bhadran* made a gift of land to the fane of *Abhaya-aster.*

3. Dated in Sal. Sac. 1307, (erroneous.) A gift by *Crishna Rayer* of *Vijayanagaram* of a village to *Rama Chandra,* a spiritual preceptor.

4. Cycle year only mentioned. Gift of a piece of land, under permission, from the capital at *Anangundi* to the monasterium at *Upina-patnam*

5. No. date. Gift of land to the same place by one named *Bhadran* in *Basava-puram,* confirmed by a sanction from *Anangundi.* The inscription is stated to be sealed with the *Saiva* symbol; indicating the said monasterium to have belonged to the *Jangamas.*

6. A similar gift to the same place, under like sanction from *Anangundi.* A cycle year only is specified.

7. A similar gift of a piece of land, which was purchased at the cost of twenty-five *huns,* or Pagodas; the inscription bearing the like seal.

8. Gift by *Basavapa-nayak* of the line of *Sadasiva-nayak*, a local chief, of some land to the monasterium of *Mahenti*. No other than the cycle year.

9. Dated in Sal. Sac. 1638. Gift of twelve *huns* or Pagodas, to the aforesaid place, by the said *Basavapa*.

10. Dated in Sal. Sac. 1643. Gift of sixty *huns* to the *Mahenti matam* in *Upina patnam*, by one named *Conapa-nayak*.

11. Dated in Sal. Sac. 860. Gift of a village in the district of *Pindi-valam* to a fane in the time of *Rama dēva arasu* a king of the *Cadamba* dynasty.

12. Gift of a piece of land purchased for 12 *huns* in order to build a fane to *Hanumân*, afterwards constructed thereon. Cycle year only specified.

13. Gift of a small piece of land, which cost 3 *huns* to *Gokernam*; by a woman who went thither to bathe at the time of an eclipse. She was the mother of *Somasechara-nayak*, a local chief, who confirmed the grant.

14. Gift of a piece of land which cost 28 *huns* to another fane, on the banks of a river. Cycle year stated.

15. Gift of land bought for 32 *huns* to the fane of *Mahabaleshvara* at *Gokernam* by *Basavapa-nayak*. Cycle year mentioned.

16. Gift of land bought for 50 *huns* to carry on the car festival, in the fane of *Sada-siva*, on the banks of a river.

17. Land which cost 3 *huns* given to the fane of *Gokernam*.

18. Land which cost 12 *huns* to *Mahabaleshvara* fane at *Gokernam*.

19. Land of the value of 3 *huns* given to the fane of *Cumb'hakerna-esvara* at *Gokernam*.

20. Cycle year. Gift of 6 *huns* to the fane of *Galagatesvara*, at *Gokernam.*

21. Gift of land to the value of 9 *huns* by a devotee ; in consequence of his coming to perform the *rudra-namascara*, a ceremony of homage to *Siva*, at *Gokernam.*

22. Gift of land, by a servant.

23. Gift of land to *Gokernam* worth six *huns.*

24. A like gift to the value of 12 *huns.*

25. A similar small gift worth 4 *huns.*

26. The like ; value 3 *huns.*

27. The like ; value 6 *huns.*

28. *Ibid*, nine *huns.* 29. *The like* value 10 *huns.*

30. *Ibid*, 6 *huns.* 31. *Ibid*, 12 *huns.* 32. *Ibid*, 12 *huns.* 33. *Ibid*, 12 huns.

34. Dated in Sal. Sac. 1475, in the time of *Sada-siva-rayer* : gift of a village to the fane of *Gokernam* ; but this inscription is not complete.

The preceding ones from 24 to 33 all relate to the fane at *Gokernam*, being presents by votaries. The fane is of great repute, but either the value of the *huns* must be greater than in the Carnatic, or else the liberality, or means, of votaries much less than in the farther south. The Canarese copies of Inscriptions in this book are comparatively fruitless.

M. S. Book No. 26. C. M. 995.

There is only a little Canarese in this book.

1. Dated in S. S. 1620 ; gift of land to two *Musjids* or mosques in the village of *Cambacachi* in the hands of Mir Hussein.

2. Relates to a restoration of rights; usurped by Tippoo Sultan, and returned by Colonel Reid, when Collector in the Ceded Districts.

M. S. Book No. 11. C. M. 980.

1. Dated in Sal. Sac. 1469 in the time of *Sriranga rayer.* Gift of a village to a fane.

2. Dated in S. S. 1353. Gift of five villages to a fane of *Virapacsha* by *Accana nayak* and *Madhana nayak.*

3. Dated in S. S. 1195. Gift of a village to a fane, by two local chiefs of the *Chola* kingdom.

4. Dated in Sal. Sac. 1122. Commemorates some repairs to a *Saiva* fane in *Deva Nallur.*

5. Dated in Sal. Sac. 1327. A copper plate inscription. A gift of land by *Timma rayer* to a fane, and to *Brahmans;* with heavy denunciations appended against any alienation of the gift to other purposes.

6. Dated in S. S. 1339. In the time of *Deva rayer;* commemorates a gift of land to the fane of *Mulavacal* by the minister of *Deva-rayer.*

7. Dated in S. S. 1389. Gift of some lands to conduct ceremonial worship in a fane, by a private individual.

8. Dated in S. S. 1439. Gift of land to the value annually of 30 *huns* by *Crishna rayer* to *Narasimha-pattar* in the district of Gooty.

9. Dated in S. S. 1564. Gift of land to a *Brahman.*

10. Dated in S. S. 1666. Commemorates similar gifts to *Brahmans* by a local chief named *Basavapa-nayak.*

11. Dated in S. S. 1620. Gift to *Bhima pattar,* a *Brah-*

man, from a local chief of a village.

12. A letter on revenue affairs.

13. Another letter on the like subject.

14. Dated in S. S. 1586. Gift of a village to a *Brahman* from *Chicka-deva rayer.*

15. Dated in S. S. 1484. Gift by some chiefs, or courtiers, in the time of *Rama-deva-raya ;* gift of a village to *Timma-na-pattar* a Brahman. Recorded on a copper plate.

16. Dated in Sal. Sac. 1487. A similar gift.

17. 18 are of no consequence. 19. Dated in Sal. Sac. 1336. Gift of a village by *Deva-rayer* to a *Vira Saiva Brahman.*

20. Dated in Sal. Sac. 1437. Gift of land to a *Brahman* in the time of *Crishna-rayer.*

21. A fragment.

22. Dated in Sal. Sac. 1196. Gift of land.

23. Gift of land –no date ; except a statement, that it was in the time of *Buka rayer's* son, named *Hari Hara raya.*

24. Dated in S. S. 1486. Gift of a village in the *Santē Benur* District, to a *Brahman,* from two local chiefs.

25. Unimportant, 26 the same ; being merely copies of two letters, on an insignificant gift.

A note was before made on the Mahratti contents of this volume. The entire contents of the book do not seem to be of consequence ; though a few of the dates of Canarese inscriptions are of value.

TELUGU.

1. Inscription in the Nellore district in a Choultry. Dated Sal. Sac. 1575. It commemorates the excavation of a water-reservoir by *Mutipa Crishna nayak* a local chief.

2. No date. Gift of a piece of land to a fane.

3. Dated in Sal. Sac. 1220. Gift of some land to two *Vaishnava* fanes.

4. Cycle year only. It communicates the formation of a causeway, and road, near a lake.

5. An account, traditionally given by an inhabitant of *Vencatagiri,* of some matters relative to the inheritance of his ancestors, of very trifling consequence.

6. Dated in Sal. Sac. 1641. It relates to a gift of land in free tenure to an individual, whose name is given.

7. Some traditional statements by a resident in a village, named *Conēsvarra-palli;* relative to his patrimonial inheritance.

8. Statement by *Suba-sastri.* His father received a gift from a chief of the *Vellugotivāra* race in Sal. Sac. 1711.

9. Similar traditionary statement; with the addition that a copper-plate grant was lost in the times of disturbance.

10. A like statement; the last particular being excepted.

11. Some traditional details by an individual as to his ancestor's lands. Documents were lost in the disturbances occasioned by Hyder Ali.

12. Similar traditionary matter.

13. Dated in Sal. Sac. 1637. Gift of an *agrakáram* to a *Brahman* by *Yāchama-nayadu* of *Vencatagiri.*

14. No. no date. Gift of an *agrahâram* to a *Brahman.*

15. Dated in Sal. Sac. 1736. Gift of a village, the title deeds of which were lost in times of war and disturbance.

16. Dated in Sal. Sac. 1628. Gift by a chief of the *Vellugotiváru*-race ; the title deeds were burnt, with the house in which they were kept.

17. Dated in S. S. 1636. Gift of a village by one of the *Vellugotiváru*-race. The title deeds were lost in times of disturbance.

18. Traditional account of a grant by the same chief. The title deeds were lost, in times of trouble.

19. A like statement.

20. Dated in Sal. Sac. 1618. Gift of a village by one of the *Vellugotivaru*-race. It was divided into two portions, among several *Brahmans,* whose tribes are specified.

21. Dated in Sal. Sac. 1560. Gift of a village. Some letters of the inscription are noted as no longer legible.

22. A matter of detail, connected with the rule of the *Vellugotiváru*-race.

23. Dated in Sal. Sac. 1670. Commemorating similar matters of revenue ; relative to the same rule.

24. A grant authorizing an individual who is named to receive 24 Pagodas, from a ruler at Cuddapah.

25. Relates to the grant of an annual allowance to several individuals from rulers of the *Vellugotiváru*-race.

26. An agreement of some traders to pay a tax on proceeds : in order to build an *agrahâram.*

27. Gift of a small village to a *Brahman.*

28. Dated in Sal. Sac. 1679. A grant of a piece of land to a *Brahman,* from *Yāchama-nāyadu.*

29. Dated in Sal. Sac. 1670. Details of an *agrahārum* given by *Pedda-Yāchama-nāyadu.*

30. Dated in Sal. Sac. 1631. It commemorates a trifling gift to an *agrahāram,* by *Cumara-Yachama nayadu.*

31. Dated in Sal. Sac. 1673. It relates to a small grant in free tenure.

32. Commemorates a small gift of land by an Officer of the Court.

33. Dated in Sal Sac. 1638. Gift of a village by one of the *Vellugotivāru*-race,

34. Dated in S. S. 1717. The subject is the gift of a village to supply oil for a temple.

35. Dated in Sal. Sac. 1710. Records a gift of land in free tenure to a *Brahman.*

The remaining contents of this book, containing in all 70 particulars having been read over with care, are found to offer nothing more important than the preceding portion of the book, which will be observed to be chiefly of late dates, and entirely of small consequence. The whole contents of the book are of the like kind: with a very trifling exception, as to the principality of *Vencatagiri,* and the rule of the *Vellugotivāru;* concerning which race sufficient details have otherwise been given.

Adverting now generally to this subdivision (E) on Miscellaneous Inscriptions, it may be perhaps readily believed, that it caused greater trouble and expense than more voluminous portions of these papers. The reason is, there was

much appearance of fruit; and the paucity of the result, though matter of regret in itself, is yet of consequence to be known, in estimating the Mackenzie Manuscripts: a most valuable portion of which was supposed to be the Inscriptions, or copies of Inscriptions, therein contained.

Madras, 10*th* *August* 1844. W. TAYLOR.

*** *The work, herein reported, was done in* 1838.

III.—*Translation and Analysis of the ancient documents engraved on copper in possession of the Syrian Christians and Jews of Malabar. By the Rev. H. Gundert.*

As it does not seem that the Jewish and Syrian documents preserved in Cochin and Cottayam have been sufficiently made use of for the purpose of elucidating the ancient history of this coast, any endeavour to set their contents before the learned public may surely command some attention. But there is good reason to expect that the discovery of an intimate connexion between the contents of the several documents settling the doubts about the existence of Jewish and Christian principalities in the Malayalam country will call forth a new and more diligent investigation than has ever been bestowed on these valuable records.

The Syrian tables for an insight and fac-simile of which I am indebted to the kindness of the Rev. Mr. Baily at Cottayam, are

I. A long and broad copper instrument written on both sides with old Tamil letters mixed with a good deal of Grantham or modern Malayalam letters. This being by far the easiest I shall copy and explain in the first place. It is a grant of the Perumál Víra Rághava to Iravi Corttan of Codungalur, making over to him the little principality, Manigrámam and elevating him to the position of sovereign merchant of Kerala.

II. The other Syrian document consists of five copper-sheets, of much smaller size with seven pages Tamil-Malayalam, apparently written by different hands, the letters less distinct and in some places injured by the breaking of the plates and corrosion, and two pages, written in two unknown languages (Kufic) with four Hebrew signatures. It is an act by which one Maruwán Sapír Isó (the Shapur or Xabro of the Syrians ?) transfers a piece of ground near the sea shore, with several families of different Heathen casts to a community and church, Tarisápalli, built by one Isó dáta virái, the grant being made with the Palace Major's sanction (probably the Commissioner of Perumál Sthánu Ravi Gupta) and with the concurrence of the Vénádu (Travancore) king, Anjuwannam and Manigramam that is the Jewish and Christian dynasties, being appointed joint protectors of the land and the Church endowed. No princes are mentioned as witnesses, except the heir of the Travancore and the neighbouring Lords. In consequence I suppose this tenure inferior to the first and third,—Manigramam and Anjuwannum were held directly under the Perumál, this church-land under the provincial authorities.

III. The Jewish tables, two with three pages in Malayalam-Tamil are preserved in Cochin at present by a Rabbi Samuel who also shows the old Hebrew translation and permitted me to copy it. It is the best preserved, tho' certainly oldest of the three documents, the language with the exception of one word

—uniform Tamil, the writing more regular than that of the others. It contains a grant of Anjuwannam, the principality just mentioned, to Joseph Rabban, given by the Perumál Bháskara Ravi Varmá and attested by the chief Raja's of Kerala.

Here follows the document I. representing literally its Tamil characters in modern Tamil, the Grantham in the present Mallayalam Alpbabet.

pl. lin. (1) ഹരിശ്രീ മഹാഗണപതയെനമഃ ശ്രീ ഭൂപാലനരപതി ശ്രീവീരകേരള (2) ചക്രവർത്തികളായി முறமுறையெ பலநூறாயிரததாண டு (3) செஙகொல நடததாயிநினற ശ്രീവീരരാഘവ ചക്രവർത്തികൾ തിരു വിരാ (4) ജ്യം ചെല്ലാ யிநி னற மகரததுள்வியாழம மீனஞாயறு இருபததொனறு (5) சென்ற சனிரொஹணிநாள் பெருஙகொயிலகததி ருநதருள மகொதையர் படடிண (6) தது இரவிகொர்த தனுய செரமான் லொகபெருஞ் செடடிககுமணிக்கி ராம (7) படடஙகுடுததொம்—விளாவாடையும பவனத தாஙகும் வெ8 பெறுமகடுதது (8) வளெஞ்சியமு (ம் wanted) வளஞ்சியததில தனிசசெடடும் முறசசொலலும முனன (9)டையும പഞ്ചവാദ്യവും ശംഖും പകൽവി ളക്കും பாவாட்யும വൈഹിതൊരാളും கொறற (10) ககுடையும வடுகபபறெயும இடுபடி தொரணமும் நாலு செரிககும் தனி (ii. 1.) சசெடடும் குடுததொம் —வா ணியரும വൈഹിംകുളാ ളരെഷം ത്തടിമക്കട്ടരെ ളം— (2) நகரததுககு கர்ததாவாய ഇരവി കൊറ്റ നുക്കു பறகொ ளுந நிறகொண (3) டு தூககிநால் கொணடுபாகி எண்ணினறதிலும எடுககினறதிலும உவி

(4) ஞெடு ഗ്രാമത്തൊട്ടകൂറിയൊട്ടവി ഉടൈ ണ്ണയൊട്ടൂ ഈടയ്ിൽ உளளதளபபெர் (5)பபடடதிலும தரகுமஅதினடுதத சுஙகமும கூடகொடுஙகூலூர் அழிவி (6) யொடுகொபுரததொடுவி ஞவഷാൽ நாலுதளியும் தளிககடுதத கிராமததொடிட (7) யில் நீர்முதலாயிசெப பெடு எழுதி குடுததொம்—செரமான் லொகப்பெருஞ் செ (8) டடியான ஈ_ரவி கொര്ത്തനുക്കு இவன்மககள் மககள் ഴ്ഞെ வழிவழியெ വെറാക്കൊട്ടു (9) ത്താം- இதறியும் பன்றியூர் கிராமமு (ம் wanted) சொகிரக கிராமமும் அறியககுடுததொம்—வெ (10) ணாடும் ஓடு நாடுமறியககுடுததொம்—எருநாடும வளளுவநாடுமறி யககுடுததொம வரு (11) ാട്ടിറു களுள்ள നാളെ കൊട്ടൊത്താം—இவர்களறிய செபபெடெழுதிய செர மான் லொகபபெருந் தட (12) டான் നമ്പിചടെ യൻ കൈയെഴുത്തു.

Translation : Pl. i.

Hari Srí Adoration to Ganapati. 1

The blessed rule having devolved from the earth-ruler 2
Manlord Chacravarti Víra Kérala (the first of the line) thro' regular succession upon Srí Víra Rághava Chacravarti, 3
now wielding the sceptre for many 100,000 years (in the year) Jupiter in Capricornus, the 21st of the Mína month, 4
Saturday, Róhani asterism, the following grant was made 5
in the Royal palace (of the Perumál)—We have given to Iravi Corttan of Mahódéverpattnam, (henceforth to be called 6
Grand Merchant of the Chéramán world (Kérala), the 7
Lordship of Manigrámam. We also have given to him (the right of) the feast-cloth (?) house pillars (or pictured rooms ?) 8
all the revenue, the curved sword (or dagger) and in (or

with) the sword the sovereign merchantship, the right of
proclamation, the privilege of having forerunners, the five 9
musical instruments, the conch, the light (or torch burning)
by day, the spreading cloth, litter, Royal umbrella, Vaduca
drum (drum of the Telugu's or of Bhairava?) the gateway 10
with seats and ornamental arches, and the sovereign mer- Pl. ii. 1
chantship over the four classes (or streets)—also the oilmakers
and the five kinds of artificers we have subjected to him (or
given as slaves to him)—We have given as eternal (liter- 2
ally "water"—) possession to Iravi Corttan the lord of the
town, the brokerage and due customs of all that may be mea-
sured by the para, weighed by the balance, stretched by 3
the line, of all that may be counted or carried, contained
within salt, sugar, musk, and lamp oil, or whatever it be— 4
namely within the river-mouth of Codungalur and the 5
tower, or between the four Talis (temples of the deputy Brah- 6
mans) and the Gramams belonging to them—We have 7
given it by an unreserved tenure to Iravi Corttan Grand 8
Merchant of the Chéramán world and to his sons and son's
sons in proper successsion.

Witnesses are:—

With the knowledge of the two, 9
Brahman divisions of Panniyúr and Chowaram village have
we given it; with the knowledge of the Vénádu and 10
Ódunádu (rulers) have we given it; with the knowledge of
the Eránádu and Valluwa nádu (rulers) have we given it;
given for the time that sun and moon shall last; with 11
the knowledge of the above, written by Nambi Chaḍayan 12
grand goldsmsth of the Chéramán world.

Remarks.

1. The term Chacravarti I take for a translation of the common Malayalam appellation, Perumál (grand per-

son) signifying the head of the whole Kérala. The present Malayalam tradition agrees with the document in making a Kérala (or Kéya) the first of the Perumáls. Víra Kérala is still the hereditary name of the Cochin Rajas, whom the old Jewish translation of III makes to be the descendants of the Perumáls.

Iravi Corttan must be a Nasráni name though none of the Syrian priests whom I saw could explain it or had ever heard of it. Is it to be brought in connexion with the Baliartes of the Portuguese?

5. Mahódéver patnam, the old name of Codunrílúr, generally Codungalur,* (probably from S. *Mahas,* worship, feast). The traditions of Jews, Christians, Brahmans and of the Kérala Ulpatti agree in making Codungalur the residence of the Perumáls and the first resort of the western shipping. The place is identified with the Tiruwanjiculam river-harbour† which one Chéramán Perumál is said to have declared the best of the existing 18 harbours of Kerala, from whence also he is said to have sailed for Arabia. The Kérala Mahatmyan, a Sanscrit work chiefly devoted to the praises of Colattiri‡ and Travancore, though it makes mention of nearly all the residences of the Malabar Rajas, knows nothing of the Royal glory of the town, which it calls Sri Kótara puri, and extols as being rich in bazars filled with all sorts of merchandize and famous for the great Bharani festival of Bhadra Cali celebrated with the greatest profusion. I conclude from this connected with the silence of I and III that the Colattiri was on the whole jealous of the Perumáls, and at least in the time of these documents independent of him.

There is at present a Raja at Codungalur one of the five

* Cranganore.
† Lat. 10° 13' N.
‡ Cherical.
} Eds.

Cshatriya families mentioned in the Kerala Ulpatti (p. 51 പടിഞ്ഞാറ്റേടം "western court") now a feudatory of the Cochi or Perimpadappu Raja. May the Musiris of the ancients not be sought here? (see the Muyiri-codu of III.)

7. Manigramam. I no where met with a recollection of this name, until I fell in with the South Indian Repository of April 1838. There, a Syrian tradition relates (p. 192) that the Syrian Christians sorely tried by a heathen conjurer (the poet Mánica Váchakar?) at last divided into 2 parties, one of 96 families who submitted to heathen purification and adopted the conjurers tenets, whence they were called Manigramacar, whilst the other party, consisting at last of only 8 families, stood fast and were called Confessors, Dareaygul, [in the original probably தரிசையகள்]. Possibly this last name may be found in the next document. So much is sure that Manigramacar could only be the name of the relations and connexions of Iravi Corttan, or of that Christian section which by its commerce and riches acquired the peculiar favour of the Perumals. May not the tradition give a witness to a certain amount of christian principle within the Syrian Church of those days, showing that not all Christians were blinded by the splendour of the Royal gift, because the elevation of a Christian merchant to the rank of prince in Kerala could hardly take place without a dangerous compromise?

8. 10. The signification of several of these princely or jenmi privileges, (called in III. வீடுபேறு) is doubtful. The four classes or streets (4 தெரு) I take for classes of foreign merchants, living perhaps in different quarters of the town, such as Concanese, Guzarattis, Chinese (mentioned in the Kerala Ulpatti) and Arabs or Jews. The mention made of the oilmaker, and five artificers (goldsmith, carpenter, founder, ironsmiths coppersmith) together with the Ilawar of the next Document,

recalls some of the confused traditions, touched upon by Wilford, of the introduction of Simhalese castes by the Christians. Several Kerala Ulpattis say, the five Artificers emigrated once after having provoked the Perumal's wrath, and found refuge in Ceylon, from whence they were brought back by the intercession of foreigners, and in their train the cast of Cocoanut tree cultivators [called Ilawar i. e. "Simhalese" from Ilam—Síhalam in Pali; also Tíyar or Dwípar, "Islanders" and Chokar i. e. Sévakar "servants."] One Kerala Ulpatti of the Nasranis says, that their forefathers with the help of these Simhalese peasants built Codungalur, as may be learned from the granite inscription at the Northern entrance of the Tiruvanjiculam temple. Farther investigations on the spot are certainly desirable.

ii, 2. "waterpossession." Every freehold or jenmam is given with the ceremony of pouring water with some flowers strewed upon it, into the hands of him who by drinking it, brings the property designed, into contact with his body. This property may either consist in grounds or in hereditary rights, [here the power of Sovereign commerce and rule over some castes.] From a comparison of the 3 Documents with each other it will appear that the landed property of the Jewish and Christian princes was the least part of their princely power. As the Perumal could not lower himself to deal with strangers, being only accessible to the nobility or the jenmis of the land, the necessary consequence of a thriving intercourse with western shores and of a more or less stationary residence of foreign merchants was this, that this newly forming power within the state should be recognized and brought in harmony with the old institutions by the elevation of a responsible head Merchant to the rank of a Jenmi and hereditary crown dignitary. This was effected by making him Prince over a small territory. The Syrians and Jews may have had great landed possessions on inferior tenures; but not the ex-

tent of the ground,—the deed of a freehold only would make them presentable. The Dignitary thus created was then made protector of his tribe and probably patron of some of the lower heathen castes connected with him by the interests of trade, (oilmakers, cultivators, manufacturers ?) his jurisdiction and political authority thus extending all over the Perumal's territory. Hence the Jewish Emir of whom the Arabian merchants relate. Upon the breaking up of the Perumal's empire, each Lord of a province seized what was within his borders, whereby the power of Manigramam and Anjuwannam could not but be reduced to a minimum. But the Rajas continued the former custom of encouraging commerce by the elevation of one foreign family to princely rank. The Calicut Raja as it were in opposition to his old rival of Cochin, encouraged the Arab settlers as the other did the Christians, and pushed his conquests towards the South chiefly by the aid of his chief Merchant and Admiral the Cóya or Cósa, the head of the Musselman settlers. The case of the Bibi or Ali Rájah of Cannanore (*ăli*, i. e. "sea") once a vassal of Collatiri for whom he conquered and from whom he held the Laccadives, seems to be likewise analogous. See both the Cóya and Ali Rajah mentioned in the list of princes, Ker. Ulp. p. 52.

6. "the 4 Tali." This incidental information about the four Talis near Codungalur gives confirmation to an important feature of the old Malayalam government, as described in the Ker. Ulp. p. 11. It is there stated that the Brahmans fearful of the encroachment of the Perumals renewed a former division of their 64 colonies (grámas) into 4 circles, represented by the four chief villages, and these had four Talis or temples for the sittings of their Representatives constructed near to the Perumal's palace. Their names: Méttali, Kíltali, Nedia Tali, and Chingapura tali. Every government measure had first to be discussed and approved by the members of this

Parliament, called Taliyátiris. There is still a temple Sringapuram, near the Cshatria palace of Codungalur. Chingapura is perhaps a *tadbhavam* or corruption of Sringapuram (not of Simhapuram)

8. Iravi Corttan's inheritance goes to his sons. The Máhomedan settlers of a later period had to adopt the custom of the country, that of making their nephews their heirs. Probably this custom would not have prevailed with the Mahomedans, had not the example been first set by their chief family, who could have submitted to it only for commensurate advantages.

9. Panniyur ["boar's village" from the Varáháwatára worship] and Chówaram [Siva-puram] are the two Brahmin colonies which give name to the present faint distinction of Veishnawas and Sheivas. Every Brahmin or other high caste man is known to belong either to the Panniyúr cúru or Chowaran cúru, though few are acquainted with the points that distinguish the one from the other [except it relate to the different modes of dressing victuals.]

10. Vénádu is Travancore. Ónádu [here Ódunádu] the neighbouring province with the capital Cáyanculam.—Eránádu is the original province of the Támútiri or Samorin and his neighbours were the 'Arngóttu dynasty in Walluwa nádu, with the Olympia of old Kerala, the temple of Tirunávái, on an island on the Ponani river. The two latter are always mentioned together. In the Ker. Ulp. the last Perumal gives to the one (Erádi) his sword, to the other (Vallódi i.e. Valluwa-adi) his shield and orders them to live always in peace with each other, a command which the Samorin soon broke by supplanting the Valluwa ruler in the right of superintending the great national feast [Mahamakham] at Tirunávái—That whole part of the Ker. Ulp. in which the present dynasties of Malayalam are represented as dating their origin from the last

Perumal's distribution of the country, is fully disproved by this and the Jewish document, and the relation of the Kerala Mahatmyam, according to which the several families were placed here and there by Parasu Rama, for the purpose of protecting certain temples and Brahmin villages, comes much nearer to the truth, if we understand by Parasu Rama the old time of Brahminical rule.

12. "Chéramán world," occurs here twice for Kérala. Surely there has never been an individual Chéramán Perumál, tho' his name is in every mouth on this coast. Chéramán is the name of the whole dynasty of Chéra or Kérala rulers, for these two names are the same, Kérala being only the Canarese pronunciation, as appears from the Deccan inscriptions of W. Elliot Esq. in which no Chéra is associated with Pándya and Chóla, but only a Kérala.

The most correct representation of the country ruled by the Perumáls is then, that of a feudal state with a powerful hierarchy close to the person of the King and deeply rooted in each province through richly endowed colonies. Then four or more eminent vassals, say two in the South, two in the North, and lastly a number of other princes and hereditary dignities with sounding names and minutely defined privileges, all having crown offices such as those of the writer and of the subject of the document. The influence acquired under such a government by Colonists from the West in spite of their different religions and of the standing threats of the Brahmins that the country is destined to be once more overrun by Sacas, Mlétchas and Bauddhas, can only be ascribed to its incapability of cultivating commerce and relations with other nations, except by encouraging the private exertions of a more spirited community of foreigners.

II. DOCUMENT.

a. I. pl. i. ஸ்வஸ்தி—கொமாரணை இரவிகுத்தன்பலநூறு
ரத்தாண்டும் மகோதையில(1)சசிறந்தடிபடடுததாளாநின்
யாணடுள்சசெலலா நினற (2) யாண்டைநது இவவாண
வெணுடுவாழ்கினற அயயனடிகடிருவடியு ம் (3) திகா
ரும் பிரகிருதியும (follow signatures apparently engrave
over other letters, without a break in the sentence) மைரு
வணணமும் புனனைதத (4) லெபபதியும முன்வைதது
குரகெணி கொலலதது மறுவா சபீசொ விராயிசெ (
யவிததருஸாப்பளளிககு செயயனடிகடிருவடி கு
b. தவிடு பெறுவது (6) —நாஙகுடி ஈழவரும மககுடி
கெறு மிழககைய ரொண்மரும் இவ (ர் wanted as often)
ள் வநதி (or நீ) (7) ருபமொரு வணணார் குடியும்
வவனெவர்ககுந் தளககாணமும் மெணிககாணமும (
ரனமெய்பபான் கொளளுமிறையுஞ் சான்றுன் மாட
மெரிபொன்னும பொலிபபொனனு (9) ம மிரவுசொ
ங கொளளப்பெற்றர் வாரககொலுங (the last 2 letters su-
plied from pl. iv. v,) கவவ (or ப்ப) ரனும்வைஞசக (10)
ணடியும் முனனம் பெறறுடையன் நானுமவீடு (11) ெ
ருக அடடிககுடுததென்—இநநாஙகுடி ஈழவருமபெ
c. ருகுடிவணணாரு (12)(ம் wanted) இரணடுகுடி—(perhaps
pl. ii. நீருடி or விருவி) யரும ஒ (or இ)ரு குடிதசசருமளள
(or வை) யபூமிப்ககு கா (13) ராழர் ஞங்குடி வெளள
ளரும இவவனைவரு (ம்) தெவர்ககுநடுவன்ந (14) ட
இடுவன் இடடுபளளிககு எணணைககும மறறுமவெ (1
ணடுஞ்சடஙகு (one or 2 கு seem to be wanting) றவுவா
தெய் செயயககடவராக சமைசச் இ (16) நநகரமகண
நீரொறற மருவான் ஸபீரிசொ செய்விசசு சா

(17) ஸ்ஸா ப்பள்ளிககுககுடுதத (ഭൂമി) யாவது—கொயி
லதிகாரிகள வியராக (or ச) (18) தெவர் உட்பட இருநத
ருளி பயிடிநடததி நீர்ததுளளியொடுகூ (19) ட அயயன
டிகள் திருவடியும் இளஙகூறுவாழின்ற രാമ திரு (20) வ
டியும் அதிகாரருமப்ரக்ருதியும அறுநூறறுவருமபுணனை
ததலை (21) பபதியுமபூளைககுடிபபதியும உள்பபடவசசு
இபபூமிக (22) கெலலை-கிழககு வயலகாடே யெலலையாக
வுங்-காயிலுமுட்படதென (23) கிழககு சிறுவாதில்கக
ல்மதிலெ யெலலையாகவும - படிஞஞாய (24) று கடலெ
யெலலையாகவும - வடககுத தொரணததொட்டமெயெ
லலையா (25) கவும - வடகிழககுப்புணனைததலை அணடில
iii. ன்தொட்டமெ யெலலையாகவு (26) ம இநநான்கெலலைக
கும அகபபட்ட (ഭൂമി) பிடிநடததி உலகும்சநதிரா (27)
திததியரும ஓளளநாளெலலாஞ் செபபுபததிரஞ்செயது
குடுததென—அயயன (28) டிகள்திருவடியும் இராமதிரு
வடியுங் கொயிலதிகாரிகளுஞளும் பட (evidently mistake of
the writer for ளுமுள்பட) மை (29) (or வ) ததருளி இப
பூமியில குடிகளயும எபபிழை சொலலியும பளளியா
ரெ (30) யி (or ளாய?) பிழையுமழிவும தலைவிலையும முலை
விலை யும பளளியாரொ கொளளபபெறுவா (31) ர்—நந்த
மர் எபபெர் பட்டாரும எபபிழைசொலலியும பூமிதத
லையும (32) குடிகளபாடுஞ் சொலலபபெறுர் - அறுநூ
றறுவரும அஞசுவணணமும் மணி (33) கககிராமமும இர
க்ஷிககககடவர் —பளளியையும் (ഭൂമി) யையும உலகு
(34) ம சநதிராதித்தியரும் ஓளளநாளெலலாஞ் செபபுப
ததிரததில (35) பபட்டவணணஞ்செயதுகொளளககடவ
ர்அஞசுவணணமும் மணிககிரா (36) மும—இவ(ர்)கள்க

ருகசகொயிலதிகாரிகள வியராக(ச?)தெவருள்பபடட இ
(37) ருநதருளிஅயயன டிகளதிருவடியும இராமதிருவடி
iv. யுமஉட்பட இ (38) ருநதருளி (follow signatures as in pl. i.)
இவ (ர்) கள்ககுககுடுதத (39) வீடு பெறுவது அறுபதி
ஞென்றுலகுங் கள்வ (or ப) ரததிலுல கிலலை யாகவும
அழிவு (40) லகிலலை யாகவும — இல (ர்) கள் கொள
ளும அடிமைககு ஆள்காசு கொளளப பெறுரா (41)
கவும — வாயினம வருமதில வரததிலும் பொககிலும
எடடுககாசு கொளளககடவ (42) ராகவும—பெடியிலும
படகிலும பொககிலும வரததிலுநநாலுகாசு கொளள
(43) ககடவராகவும-உலகு படுஞசரககு இவ(ர்) களைகூ
டவசசு உலகுவிடுபபதாகவு (44) ம-சரககு மிலையிடுமிட
த்தும மறறுமெ ஙா மிகாரியம எககாரியமுமஇவ (45)
(ர்) களைககூடடியெசெய்வதாகவும-அனறனறு படுமுல
கு அஞசுவண்ணமும (46) மணிக்கிராமமும இலசசிசசு
வைபபதாகவும்-நாலுவாதிலகதது (47) ம்வில(or ல்)ககும
பூமியாககாராண்மை கொடுககுமெடதது கொப்பதவா
ரங (48) கொயில்கொணடு பதிபபதவாரம் அஞசுவண்ண
மும் மணிககிராமவு (49) ங் கொள்வதாக—இவ (ர்) கள
ககு மங்கலததுககு ஆனைமேல் மணணுநீர்முத (50) லாக
எழுபததிரண்டு வீடுபெறும வசசுககுடுததார். கொயில
தி (51) காரிகள வியராகதெவர்உள்பபடஇருநதருளி அய
யனடி (52) கள் திருவடியும்ராமதிருவடியும் ஒதுர்ரியும்
v. அதி (53) காரரும் அறுநூற்றுவரும் புன்னைததலைபபதியு
ம் பூளைககுடிப்ப (54) தியும் உளபபடவைதது உலகும
சநதிராதித்தியரும் ஒள்ளநாளெலலா (55) ம இவவடடிப
பெறெலலாஞ் செபபுபததிரததில படடவணணஞ் செய
து (56) கொளளபெறுவர். அஞசுவணணமும்மணிககிரா

l. மமுமம—இவ (ர்) கள்கசு (57) அனனியாயம ஒணடா
யில் உலகுதுலாககூலி தடுதது்நதங்கள் அஞுஞாயந்திர்
(58) ததுகொளளககடவர்—தஙகள் செயயும பிழையுண
டாகிற்றஙகளைககொணடெயாராஞ்ஞு (59) கொளள கக
m. டவராகவும—இநநகரததுககு கா ராளராக நீரொறருர்
அஞுசுவணணமு (60) ம் மணிக கிராமமும இவருளிரண
டுதலையாருங் கூடிச செயவ தெயக (61) ருமமாகவும—
n. இநநகரங்கணடு நீரொறறவருமான் ஸவிஸிஸா மு
ன்னமபளளி (62) யார் பெறறுடைய வாரக்கொலுவவஞு
சகணடியுமமறைவான ஸவிஸிஸா பெ (63) றுத
து நிறைககூலிபளளிககுககுடுககககடவர்—இதுவும அட
o. டிப (64) பெருககககுடுததெண—உலகுஞசநதிராதிததிய
pl. vi. ருமம ஒளளநாளெலலாம (65) மெவவகைபபடட இறைய
ந்தரிஸா பபளளியார்ககுவீடு (66) பெருக செபபுபபத
p. திரஞ்செய்தடடிககுடுததெண—இ (67) வவிழவர் தமப
(or வ) ணடி குணநதஙகாடியிலும மதிலிலும வியாபரிக
கபபெறுவர்—வண (68) ஞுனுமவநதஙகாடியிலுமமதிலி
q. லும வநது தன்பணி (69) செயதுகொளளப்பெறுந்—
தீயவாள்வானும மதிஞயகனும மற (70) றுமமெவவகை
பபடடாருமமெபபிழைசொலலியுமமிவ (ர்) (71) களைத
தடுமாறபபெறுர்—இவ (ர்) களைபபிழை செயயிலும
(72) பளளியாரொய் ஆராநது கொளளபபெறுவர்—உல
குஞ்சநதிராதிததருமம உளளநாளெலலாம செபபுபபத
திரததிலபடடபரிதுவீடுபெறு அடடிபபெருக அடடிக
r. குடுததெண—இபபரிது வீடுபெறு அடடிபபெருக அய
pl. vii. யணடிகடிருவடியால தரிஸாபளளிககு அடடுவிடுததுககு
s. டுததானமருவானஸவிஸிஸா—இதுகாததில (ச்சி

t. is wanted) ககிலகெகிககும் மவர்ககுததெவணாயனுககிரா மனு செயவாராக—அயனெழுதது—வெளகுலசுநதரனு ககு மொககும—விசைய

The following is the translation as far as it can be made out with short remarks in brackets.

a. Hail !—In the time (literally, year) of Perumál (Có king, or Gó—) Sthánu Ravi Gupta, who now rules gloriously for many 100, 000 years, treading under foot hostile heads, in his 5th year, this year under the concurrence of His Excellence the Ayyan-Adigal, governing the Vénâdu (the Travancore King is still called Vénád adigal "the adorable feet of Vénádu") of Anjuwannam (the Jewish principality, of the following grant) and of * Punnattala's Lord (the next neighbour, vide *d.*,) the following grant of a freehold has been given by H. E. the Ayyan Adigal to the Tarisá Church (and Community) established (or built) by Isodáta Virái of Curakkéni Collam.—(The name Tarisá is perhaps to be recognized in the Dariaygal of the Syrian tradition. I. pl. i. Remark. 7.)

b. (This sentence is the most difficult of the whole—first on account of the many antiquated terms of country customs, secondly on account of the construction, பெறா *perár* being the negative verb as p. iii. and p. vi, which gives no plausible translation. I prefer to read பேறா *pérár* and take it as the Nominative for the Genative :) and I also (one of the above Lords or Maruwán Sapír Ísó or the Church, vide *n.*, who formerly had the possession of the share-staff (வாரககோல feudal tenure ?) of the four families of Ílawar ("Simhalese, also Tíyar, Dwípar, Islanders" now Palmtree cultivators) and of the eight families of Ílakeyar (Síhala low casts or slaves?) belonging to them, and one family of washermen coming from the

* Punnattala is said to be near Mavalicara.

same stock as these, all these being entitled to the fetter-right (தளை the footrope for mounting cocoanut trees ?) and ladder right (for reaping pepper ?); to the tax for the elephant feeder, and to the wash-gold ("*eri*" perhaps—*ari*,) which the Chàndàn ("great person ? sun ?") is wont to get (*máttu* "hook in" T. "get by ruse" M.) as well as to the harvest gold ("*polipon*" gold of interest ? shining gold ?) to the nightly meal of rice and to the pot-measure, I, possessed of this sharestaff and of the Cavván (or *cappam* ? "tribute") and of those 5 Kandis (pieces of ground or shares ?),—have given them by a free and unrestricted transfer.

c. Maruwán Sapír I'só (Maruwán the syrian מרן Lord ?) who has received the water (hereditary possession) of this town, having arranged that these four families of 'Ilawar (with their servants and washerman), two families of—, one family of carpenters, and four families of Velláler (Tamil agriculturists) the latter being Cárálar (T. ploughmen, M. temple servants used pl. v. for Trustees, hence pl. iv. the noun *cáránmei* "Trusteeship") of the Alavé (or *Aladeiya*) land, that all these may do their duty to the God, the planter by planting (rice etc), the setter by setting (trees, or by building, offering ?) so that the required ceremonies such as the oil for the Church suffer no diminution, has enacted and given to the Tarisá Church the land now to be described.

d. Decreed with the sanction of the Palacemajor* Vyaráka Dévar (probably commissioner of the Perumal, since he is repeatedly mentioned before the Travancore vassal) and power given with (the ceremony of) waterdrops for seizing and possessing, under the concurrence of H. E. the Ayyan adigal, H. E. the second Raja—Ráma (brother of the former and next heir,) his officers and ministers, and of the 600 (a local authority vide *f*,) also of the (neighbouring) lords of Punnattala ("place of Calophyllum trees") and Púlacudi

* In the original கொயிலதிகாரிகள் Eds.

("dwelling of silk cotton trees")—the Land bounded so that the E. border be Vayalcádu (open waste plain,)—and the backwater included; the S. E. border be the wall near the little door gate ? (*Chiru wátil cál matil*); the W. border the sea; the N. border the Tórana garden; the N. E. border the garden of the unapproachable (*andilan*) of Punnattala; the land enclosed within these four borders I have empowered to take and by executing this copper deed have given, for the days that earth, moon and sun exist.

e. And it has farther been settled with the concurrence of H. E. the Ayyan Adigal, H. E. Rama, and the Palace Major —that the Church people (Palliyár—probably heads of the Tarisá citizens) alone have power to punish the (heathen) families of this land for any offence whatsoever and receive the fines expences, headprice and breastprice (probably the right of selling males and females for serious caste offences;)—mine
f. own relations whoever they be, whatever the charges be, shall never have the right there to speak as heads of the land dealing with subjects—Let the 600 (see *d*) the Anjuwannam and Manigramam (Jewish and Christian principalities)
g. be the protectors. Let them, even Anjuwannam and Manigramam act both with the Church and the Land according to the manner detailed in this copper deed for the times
h. that earth, moon and sun exist. Ordered with the sanction of the Palace major Vyaráka Dévar, and with the sanction of H. E. the Ayyan Adigal, and H. E. Rama and free tenure granted to these (Palliyar) as follows:

i. (Again a difficult sentence—I take *ulaku* i. e. lóka for the official name of the citizens, Christian freemen, formed into a corporation, and distinguished both from the Palliyar, who are their headmen and from the Cudi or Heathen families, who live on their grounds as farmers or slaves)—There being 61 citizens, the number not to be increased nor to be dimi-

nished; no personal tax to be received for the slaves they buy (or, "the person-tax to be received" if you read pérár); —for admitting any conveyances or letting them out they are to receive 8 coins (káchu—*wáyinam* is váhanam, understand horses, waggons); in the case of (female) elephants and of boats whether for letting in or letting out they are to receive 4 coins; merchandize belonging to the citizens to be disposed of (or removed) by them with the cognizance of the above (the Palliyár? or the protecting Lords?); and that they (the Palliyar) do all the business (rights and duties) of a Lord (Swámi), on the place of packing the wares (or on spots where poles with leaves are set up as signs of prohibition) and elsewhere, only after deliberation with the above mentioned (Anjuwannam and Manigramam?); that Anjuwannam and Manigramam protect the citizens in every coming generation; that in the space within the four gates (or in the four public offices?) and on the spot where land for sale (or "under prohibition") is given in trust, the Palace (or Supreme Government) having received the King's tithe (Kó-pata-wáram), Anjuwannam and Manigrámam receive the Lord's tithe (Pati-ppata-wáram) with the sanction of the Palace

k. Major Vyaraka Devar, who has given to these (the Palliyár) the 72 jenmi rights (*viduperu*) such as for marriages (or processions) the elephant's back, the earth, the water etc (or "earth and water on the elephant,"—at all events marks of nobility), and with the concurrence of H. E. the Ayyan Adigal, H. E. Rama, the ministers and officers, the 600 and the Lords of Punnatala and Púlacudi, let Anjuwannam and Manigramam carry out this unrestricted possession-right in the manner described by this copper deed for the time that earth, moon and sun exist.

l. If any injustice be done to these (the Palliyar? or Anjuwannam and Manigramam?) they may withhold the tribute ("world-bearing-hire") and remedy themselves the injury

done to them. Should they themselves commit a crime, they are themselves to have the investigation of it. And
m. let whatever the two chieftains in Anjuwannam and Manigramam who have taken the water (possession) as trustees for this town (*Cáráler*, see *c.*,) may do in unison be counted
n. for one act – And let Maruwán Sapír Ísó who took the water for this town, since he acquired (or transferred ? *peruttu*) the sharestaff (*Várakól* of *b.*) and those 5 pieces (or *Anjacandi*) which formerly were the property of the Palliyar pay for it the full price to the Church. This also I have
o. given over by unrestricted transfer—I have ceded to the Tarisá Church people by full and unrestricted tenure every kind of revenue by this copper deed for the time that earth moon and sun do last.

p. Those Ilawar are permitted to follow out their occupations (?) in the bazar and on the wall. The washerman may come and do his work in the bazar and
q on the wall. Nor have the Island ruler (or Tíyar-head man) and the Wall-officer or whoever it be, any power to stop them on any charges whatsoever. Though they should commit a trespass the Palliyár alone have to try them.

r I have given this in the manner detailed in the copper-deed for the time that earth, moon, and sun do last by full free and unrestricted tenure.

s The person who made this full, free and unrestricted transfer to the Tarisápalli through H. E. the Ayyan Adigal, is Maruwán Sapír I'só.

t. To those who keep this and care to see it observed let God himself be gracious (what is *anugramam* or *anucrámam ?*) The writing of Ayyan—and may this benefit (*vel*—or is it a compound word?)be equal to Cula Sundara's (Vishnu ?). Rule victoriously !

N. B. This document is the connecting link between the Ist. and the IIIrd. it proves the Jewish and Christian Lords to have been friends and the first Dynasty to have been prior to the other. Although the two remaining pages cannot now be deciphered, it remains for us to add what can be made out of the Hebrew signatures.

הכתובו המוש פריש תהום
—— s——— ?
התובכו צהק מכיע"ל פריש תהום
—— s——— ?
הכתובו אברהם קנוכי תהום
הכתובו יבריאה ״ תהום

Much herein is altogether inexplicable, and after we once know that these are signatures of a Hamush, or Hamish (Arab. "courageous,") and an Ishaq Mikaël, Delegates (or Phariseans ?), of an Abraham, who has another office or surname, and of a fourth party, probably all witnesses on Anjuwannam's side, we may leave them for the present. I may add that the late Mr. Buchanan was certainly mistaken in his opinion of these Hebrew characters.* They are very similar to the present Hebrew alphabet and "Abraham" especially can be read on the first view.

III. DOCUMENT.

III. The Jewish document, although the oldest is the best written, the language with one exception [illegible] old Tamil, apparently of a time when the Tamil and Malayalam were still one undivided language, with a few dialectical peculiarities in each province. Though repeatedly copied and referred to since the time of Anquetil du Perron, no translation of it has as yet fully succeeded, because the chief points such as the meaning of Anjuwannam, of *vidu-pêru* etc. could only be satisfactorily settled by the comparison of the Syrian tables. Also in many minor points the comparison of the 3 documents was found to throw sufficient light upon

* Christian Researches p. 140.

what would else remain illegible or doubtful in meaning. The old Hebrew translation is of a time when loose tradition only, guided the interpreter in fixing the meaning of many terms, and when the memory even, of Anjuwannam was already extinguished. No Jew of Cochin seems ever to have heard that name.

pl. i. ஸ்வஸ்தி ஸ்ரீ-கொகொணமைகொணடான் கொ-ஸ்ரீபார்க
a. ரண இரவிவணமர் பலநூறுயிரததாணடுமசெஙகொல்நட
ததியாளா நினற யாணடு இரணடாமாணடைககெதிர்மு
பபததாறுமாணடு-முயிறிககொடடு இருநதருளிய நாள்
b. பிரஸாதிசசருளியபிரஸாதமாவது-ஈஸ்பபு இறவவாணு
ககு அஞசு வணணமும பெடியாலும வாயனததாலும
பாகுடமும அஞசுவணணப பெறும பகல விளககும
pl. ii. பாவாடையும அநதொளககுமகுடையும—வடுகபபறை
யுமகாகாளமும இடுபடியும தொரணமும தொரணவி
தானமும சரவும மிககும எழுபததிரணடுவீடு பெறும
c. கூடகொடுததொழு—உலகுந் துலாககூலியும விடடொ
ம-மறறும நகரததிலகுடிகள கொயில்ககு இறுககுமறு
இவன இறுமையும பெறுமறுபெறவும ஆகச்செபபெட
d. டொடுமசெயதுகொடுததொம—அஞசுவணணமுடைய
ஈஸ்பபு இறவவாணுககும இவன ஸநததிஆண்மககள்க
கும பெணமககளககும இவன்மருமககள்ககும் பெண்ம
ககளைகொணட மருமககளககும ஸநததிபபிரகிரிதி—உல
குஞசநதிரனும உள்ளளவும அஞசுவணணமஸநததிபபிர
கிரிதி—ஸ்ரீ

pl. iii. இபபரி அறிவெண வெணாடுடைய கொ
e. வர்ததன மாததாணடன
இபபரி அறிவெண வெணுவலிநாடுடைய

கொதைசிரிகணடன
இபபரி அறிவென எருளநாடுடைய மா
ணவெபலமானவீயன
இபபரி அறிவென வளளுவநாடுடை
ய இராயாஞசாததன
இபபரி அறிவென நெடுமபுறையூர்நாடு
டைய கொதை யிரவி
இபபரி அறிவென கீழபபடைநாயகம
செயயினறமூர்ககனசாததன
வன்றலைசசெரிககணடன
குனறபபொழுஞயகீழவாய் } perhaps one person.
ககெளபபாணெழுதது

Hail! Sri—The King who has taken the Supreme Rule, King (Perumal) Srí Bháskara Ravi Varman, wielding the sceptre and ruling for many 100,000 years, in his time, in the 36th year against the second cycle (literally, year), on the day when he was pleased to sit in Muyiri-códu, he was pleased to grant this favour.

N. B. The Jewish translation particularly incorrect in the rendering of this sentence, deserves perhaps to be listened to in its translation of Muyiri-codu יושבבכנאנור "residing in Cranganur or Codungalur." Perhaps the Musiris of the ancients is to be sought so far South. The calculation of the 36th year against the 2d cycle, which Mr. Whish has attempted, guided by the authority of other documents of considerable age, I am not prepared to criticize, as I am doubtful of the signification of "*etir*" against (before?)

We have given to Joseph Rabban (the principality) Anjuwannam, along with the 72 Jenmi rights such as (going) with elephants and (other) conveyances, tribute from subordinate landholders, and the possession (or revenue) of Anjuwannam, the light by day, the spreading cloth, the litter, the

umbrella, the Vaduca drum (of I. i. 9, Jews transl., "drum beaten with 2 sticks") the trumpet, the gateway with seats, ornamental arches and similar awnings and garlands (*cha-rawu* i. e. T. சாலை) and the rest.

N. B. Here the name of Anjuwannam, has been mistaken by the Jewish and other translators. The Jews translate it in the first place with חמשהמינצבע and further below חמשהצבעים "five co-lours," and the revenue of Anjuwannam is converted by them into a a right to convert from the 5 castes" ולאירמוחמשה עמות But the language of the Document forbids to take "*anju*" for the numeral 5, it would have been "*aintu*," as in the later Document II. *a.*—The present translation of *vidu-peru*, generally mistaken for a gift of houses, or even for a gift to 72 families (לוולשבאימושניםבתים is) fully secured by Doc. II. in several places: *vidu* (cf II. *k.*,) is the verbal noun of *vidu*, "to leave," signifies "remittance, freedom," hence in ancient T. synonymous with S. *mocsha*, the derived meaning is "freehold, *janmam*," hence the modern signification, "gardens house." Some of the privileges are not quite determined; *pácudam* (T. tribute) is in the Jewish translation, the right of calling from the corners of the street that low castes may retire (וקריאותלמגותהןדף)—after "umbrella," the Jews have inserted וראבל a word of which they do not know the meaning.

e. We have remitted to him the tribute to the Supreme Government (lit. the world-bearing-hire of II. l.

N. B. The Jews translate literally but ungrammatically ובן-שביתהאגעובאןבימשבירומצת "and the revenue of the land and ba-lances their hires he remitted.")

And we have enacted with this copper deed that when the other Town inhabitants pay taxes to the (Perumals) Palace he shall not have to pay, when they receive, he shall also receive.

N. B. Nothing of the Jewish version can here be of any use they are quite misled by the word *Cóyil*, which they take for Syna-gogues, and hence conclude the sense to be this "and he shall be

chief to the rest of the Cities in which there are Synagogues and Jewish inhabitants" without any attention to the structure of the sentence. But the sentence is difficult on account of the (antiquated) double *aru*, which I take for " time, term," of Beschi's அறுவரி " tax paid at fixed times," and the derivative *áru*, used in Malayalam and Canarese for " when." From a comparison of this and the first Document it appears, that the residence of the Jewish and Christian chieftains was not in the little principality given to them, but that they remained in the Metropolis, as the seat of commerce. The Jewish translation may give confirmation to the tradition that there were Jews and Synagogues in many cities, and that naturally enough their naturalized Emir had jurisdiction over the whole nation, which he represented in the system of Government then established.

d. (Given) to Joseph Rabban the owner of Anjuwannam, and to his posterity, sons and daughters, nephews and sons-in-law חתוןבלה a hereditary appendage—for the time that earth and moon exist—Anjuwannam a hereditary appendage—Sri.

N B. *Pracriti* " what is natural, essential to." I take it for synonymous with jenmam, which also first signifies " birth" then in Malayalam " hereditary property." Different is the use of *pracriti* in II. *a.* The Jews translate it here with. קיים " standing" בלזמןשזרצוקייםאלוהגןגרימקיימים

Thus do I know Góvardhana Márttándan, owner of Vénádu (or Travancore, ציגרבובירכין מסארין) Thus do I know Kotei Sri Candan, owner of the Vénaváli province ובנבל (בגרןהגאןזכותדשיל perhaps Bembali, wherein now Cottayam, —may it not be the older name of Odunádu I. pl. ii. 10.)
N. B. These are the two Southern vassals.

f. Thus do I know, Mána Vépala Mána Víyan, owner of Erála province (חירלנאדךמנאבגרין) the name of the Tamutiri, changed by the Jewish version according to the current tradition into Mana Vicrama, vulgo Mana Vikkiran) ; thus do I

know, Ràyaran Cháttan, owner of Valluwa province)כלורנאר רבריקשטין

N. B. These are the two northern vassals, as I. Pl. ii. 11.

g. Thus do I know, Cotei Ravi, owner of Nedumpureiyúr district (Jewish version corrupted by the writers, but the tradition that this is the Palacádu Rája seems correct. Nedumpureiyúr is an old temple on the Palgatcheri road, from which Mr. Whish obtained some inscriptions.)

Thus do I know, Múrkhan Cháttan, commanding the Eastern army. (The Jews take Kil-padei for a proper name). It seems these two are the great Eastern vassals on the road which leads through the Coimbatoor gap to the old fields of battle between the Pándi, Chóla and Chéra princes. I conclude from Document I. that in a later period the Chera country properly speaking had been taken from the Cheramáns.*

h. Candan of Great Taleicheri (ותלהשיריכנדו) Kil-way ("under-mouth" Eastern commander or Viceroy, i. e. dhalawa "army-mouth" or general) the mountainsplitter—The writing of Kelappa.

N. B.—It is open to question whether these persons are two or three. The Jewish version has only the first and the last הספר כילפיין leaving out the middle altogether. If Kilway be the name of a place, we must render "the writing of Kilway Kelappan the mountainsplitter" and the latter appellation may be taken for a title given to the writer because he deals in metals, [compare the Grand goldsmith of the I. Document]. But as Buchanan says the Jews find in the names of the subscribing Rajas the Colattiri and the Curumbenadu rulers, we may find it possible to recognize in the Candan of Taleicheri a family member or vassal of Colattiri, who with this sea-town recognized the rule of the Perumal, and in the

* According to Ellis it was divided among the great vassals as early as A. D. 389 and finally though at what period is uncertain was reduced to a province of the Pandya Government Trans. Mad. Lit. Soc. p. 19. W. E.

mountainsplitter the chieftain of the Curumbar or jungle-dwellers, so called either from his mines at Tamracheri or from a pass he opened through the Ghauts. It does not seem that in the time of these three Documents the northern Malabar or Colattiri did belong to the Perumals : for if it did, its Rajas would certainly have obtained as high and conspicuous a place in the line of witnesses as their relations of Venadu, to whom in old times they appear certainly superior. They recognized perhaps a Tulu or Maisur dynasty as supreme Lords.

The Jewish version adds פּריפּ דפּשהואמלךקוגוי לאנאכרבנח בגבזר שהזיחאותויורשובמקומ.

"Perimpadappu who is now the Raja of Cochin is here not mentioned because (the Perumal) made him his heir and successor." There is certainly some truth in this remark, from what is said I, Pl. i. 1. about the name Vira Kérala, now the standing appellation which the Perimpadappu assumes on his accession to the throne.

Conclusion. This III. document leads us into a time plainly distinct from that of the Syrian grants. The Perumals sway extended over a greater stretch of country, there is no recognition of the Brahminical hierarchy, the manner of marking the year is likewise peculiar and referring perhaps to an era of important political and religious changes. The Kerala Mahatmyam and the Kerala Ulpatti speak of one Buddhist King, whose reign they strive to shorten without accounting for the great change they confess to have been wrought under him. And certainly this first introduction and naturalization of foreigners is less likely to have been the work of a Brahminical government than of any other under the sun. The Bramins, when their authority was re established, may have continued and imitated what had been done by their predecessors chiefly if they found the Syrians conniving with idolatry, as their own tradition makes them, but they could hardly have been the first to suggest such a plan To indulge in conjecture about the meaning of "Bauddhas," [Budd-

hists? Jains? sects from the West, at present generally applied to the Muhammedans] would here be out of place. But I think enough has been said to support the suggestion that the Government which could afford such a first grant to foreigners, remitting even the vassal's tribute, [which was never done with the Syrians*]—was less suspicious, more powerful and enterprizing than any native rule which has succeeded it on this coast.

Notes on the preceding Papers.

The documents for the preceeding able exposition of which the Society is indebted to Mr. Gundert have long been a source of interest, from the expectation that they would throw light on the early advent to India of the two remarkable races to which they relate. Though this hope has not been fully realized, the field of inquiry now opened will probably lead to farther discoveries. It would be worth while to search for inscriptions on stone on the sites of all the earlier christian villages and places of worship. The sasanams at the Tiruvanjiculam temple noticed by Mr. Gundert should also be transcribed. The Sub-Committee would gladly undertake the examination of any of these that may be forwarded to them.

Impressions of the Syrian deeds I. and II. having come into the possession of a member of the Sub-Committee, it has been resolved to give fac similes of the second which will accordingly be found in plates 4. 5. 6. 7. 8. of this vol. The first being in characters differing little from the modern has not yet been considered worth the same trouble, besides being unfitted by its greater size. It is $14\frac{3}{4}$ inches long by 4 broad, the part occupied by the writing being nearly 13 inches.† On the margin of one side is the figure of a Shankh

* The wording here leads to the conclusion that Anjuwannam was in a later period obliged to pay the tribute, excepting only in cases when the vassal had to defend himself against unconstitutional acts of Government.

† Buchanan Chris. Res. p. 140.

or sacred whelk-shell. The last plate of II. in the two undeciphered characters is plate 8. The first which Buchanan called the nail headed has been rightly conjectured by Mr. Gundert to be Cufic. In the earliest Cufic inscriptions the letters are frequently ornamented with flourishes or run into each by the device called toghra, of which specimens may be seen in the tombstone from Malta engraved in the first volume of the Mines de L'Orient and in the Ceylon inscription deciphered by Professor Lee in the first volume of the Trans. Royal Asiatic Society p. 545. In the present instance, the extremity of every letter is made to end in a triangle both above and below. It is read as follows and consists of names of certain Arab witnesses.

. . . يد لك ميمون بن ا بر
هيم و شهد محمد بن منيع
و شهد طي بن علي و شهد
عثمان بن الحزر ما ت و شهد
محمد بن يحيى و شهد عمر و بن
ا بر هيم وشهد ابر هيم بن
* * * * * و شهد بكر بن منصور
و شهد ا لقا سم بن حميد
و شهد منصور بن عيسى و
شهد اسمعيل بن يعقوب

The first word which is wanting may be هذا the reading would then be Meimun Son of Ibrahim arranged this for you? and Muhammad Son of Mania witnessed it and Tai Son of Ali, ditto. and Osman Son of Ali Hazramat? do. and Mohammad Son of Yahia do. and Omru Son of Ibrahim do. and Ibrahim Son of * * * * * do. and Bakr Son of Mansur do. and Alkasim Son of Hamid do. and Mansur Son of Eesa do. and Ismael Son of Yakub, do. The name omitted is doubtful.

The next character is probably another list of witnesses—for the same words recur repeatedly. Thus the first word is

repeated ten times. It is probably an expression equivalent to the شهد of the Cufic document and should serve as a clue to make out the whole. The last word is found six times. A word in the middle of the second line is the first of the fourth and a word in the fifth line occurs three times.

One of the most important points in the Jewish or III. document is the determination of the date regarding which the following conjecture is hazarded, being the conclusion arrived at in an attempt to translate the grant itself three or four years ago.

The words are, "irandám-andeikk'-etir-muppatt'-aram-andu" which appeared to mean "the 36th year" [of the Cycle] "corresponding with the second year" [of the reign] or it may be the 36th year of the Cycle opposed to or in contradistinction to the 2d which would be the 3rd Cycle, i. e. of Parasurama, the era prevalent in Malabar. Mr. Whish rendered it the 36th year of the 2nd Cycle. But besides that the construction does not bear this meaning, it is not customary to note the particular Cycle, which indeed would hardly seem necessary in periods of 1000 years each. I conclude therefore that the first is the true rendering, the 3rd Cycle or that which last closed being the one referred to, and as it commenced A. D. 825, the year of the grant, the 36th, would be A. D. 861. To take the 2nd Cycle would evidently go too far back. This would give 139 B. C. Inscriptions of that period are in a form of character much more ancient from which all those now in use are proved to have been derived. And to this degree of antiquity the writing in the Jewish tablet possesses no claim.

W.

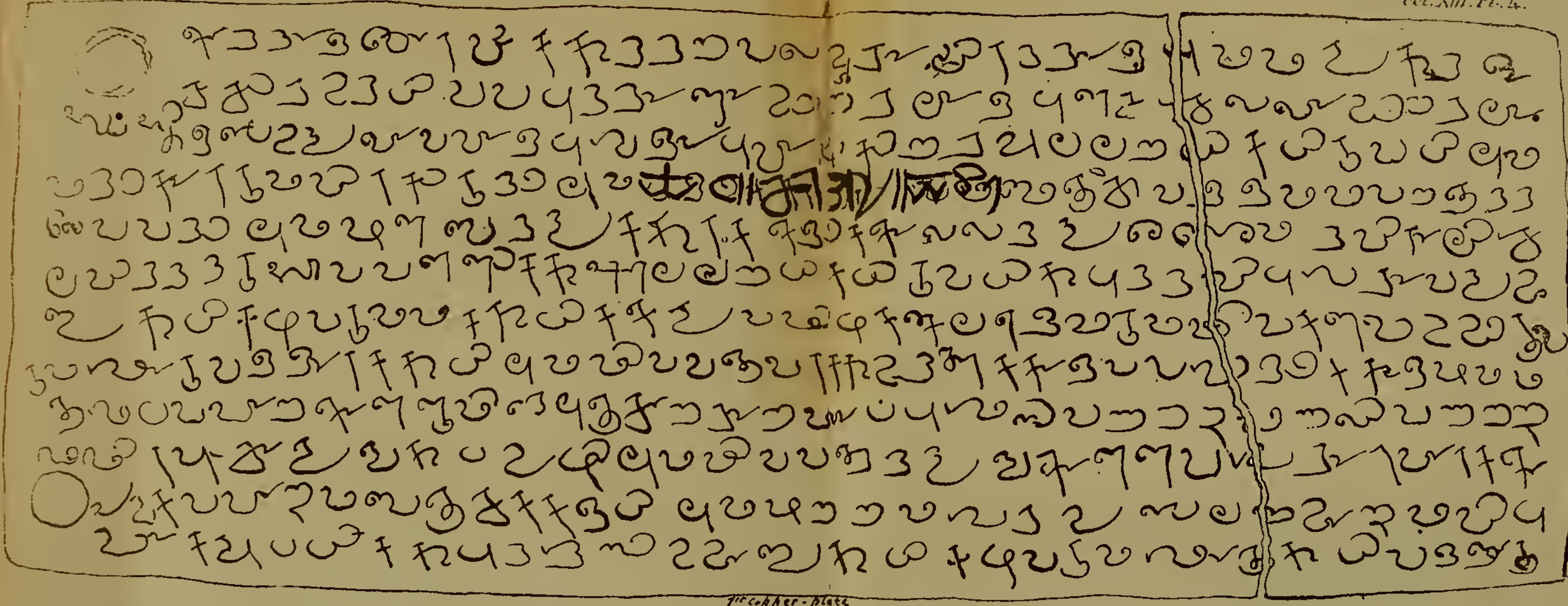
[After the No. had gone to Press, the Sub-Committee were favored by the Rev. Mr. Taylor with some further observations contained in a letter from Mr. Gundert to him. Mr. Gundert observes with reference to the al-

teration of a word which occurs three times in the course of II. document (vide Plate 4. 4th line of 1st Copper Plate, Plate 5. last line of 2d Copper, Plate 6. also last line) "that there were at first some words in the common Alphabet of the document, but they have become next to illegible by the marked characters engraved over them, nor do I think it of importance to settle what the names erased may have been, but as the interpolations recur three times, there is no difficulty in separating them from the letters written at first. I have no doubt they meant Manikkirámam with the last ம repeated,—as often before initial vowels." As regards the term Chakravarti in I. Mr. Gundert adds, that he purposely left it untranslated as the question might arise whether the Perumals had an exclusive right to this title. At present all Kerala Rajas lay claim to both. With reference to the suggested explanation of Anjuwannam as meaning five castes or five colors, which the Jews also have tried. Mr. Gundert observes, that from the uniform language of the documents, he concludes it must be meant for a name as surely as Manigramam is one; and this conclusion is strengthened by the fact that even the very exact first document does not rectify the vulgar pronunciation அஞ்சு into ஐந்து lest the name should become liable to misinterpretation. Mr. Gundert has likewise forwarded a reading of the Cufic signatures which he has made out by means of some inscriptions published in the Bombay Asiatic Society's Journal, which differs little from the version given above. The first word he supplies by شهد "tho' the place" he adds "will scarcely suffice"—the next word he omits. In the third line for Tai he reads Sali—the fourth line he also leaves and the 5th he reads اسد بن تحفي Asad bin Tohfi. The 1st and 2d names in the 7th line are also undeciphered. He then adds "as this is the first list of the witnesses subscribing (the others being one in unknown characters but clearly Semitic, written from right to left, and one in Hebrew) and at the same time the longest and most carefully engraved, it would seem that these witnesses must represent one of the parties treated of in the document. If they represent Anjuwannam why have we afterwards four Hebrew signatures? If Manigramam, it would seem that it had at that time passed into Arabian (Jewish, Christian, or Mussulman) hands. Or are these the 600 (II. *d. f.*) authorized to protect the new Church in conjunction with Anjuwannam and Manigramam?" Mr. G. likewise notices the frequent recurrence of the first word in the unknown character —and concludes by adding the following additional remarks by the Rev. Mr. Peet at Mavelecara on the greater Syrian grant:

1. "Manigrámam," he asserts, "is the name of a class of Christians, relapsed into heathenism through the influence of a sorcerer (Manica Vachakar?). Some of that class are still to be found near Quilon. Each individual is called (in Native books?) a മണി, a jewel, on account of their apostacy—and the whole of them constitutes now a subdivision of the Sudras." I had indeed been startled by the Indian-looking name "Iravi Corttan," which does not at all look like the appellation of a Syrian Christian: still I thought myself justified in calling Manigramam a Christian principality—whatever their Christianity may have consisted in—on the ground that from Menezes' time, these grants had been regarded as given to the Syrian Colonists. I now venture the conjecture, that they were disciples of Mani, a colony of Manicheans, such as the Arabian travellers found in Ceylon.

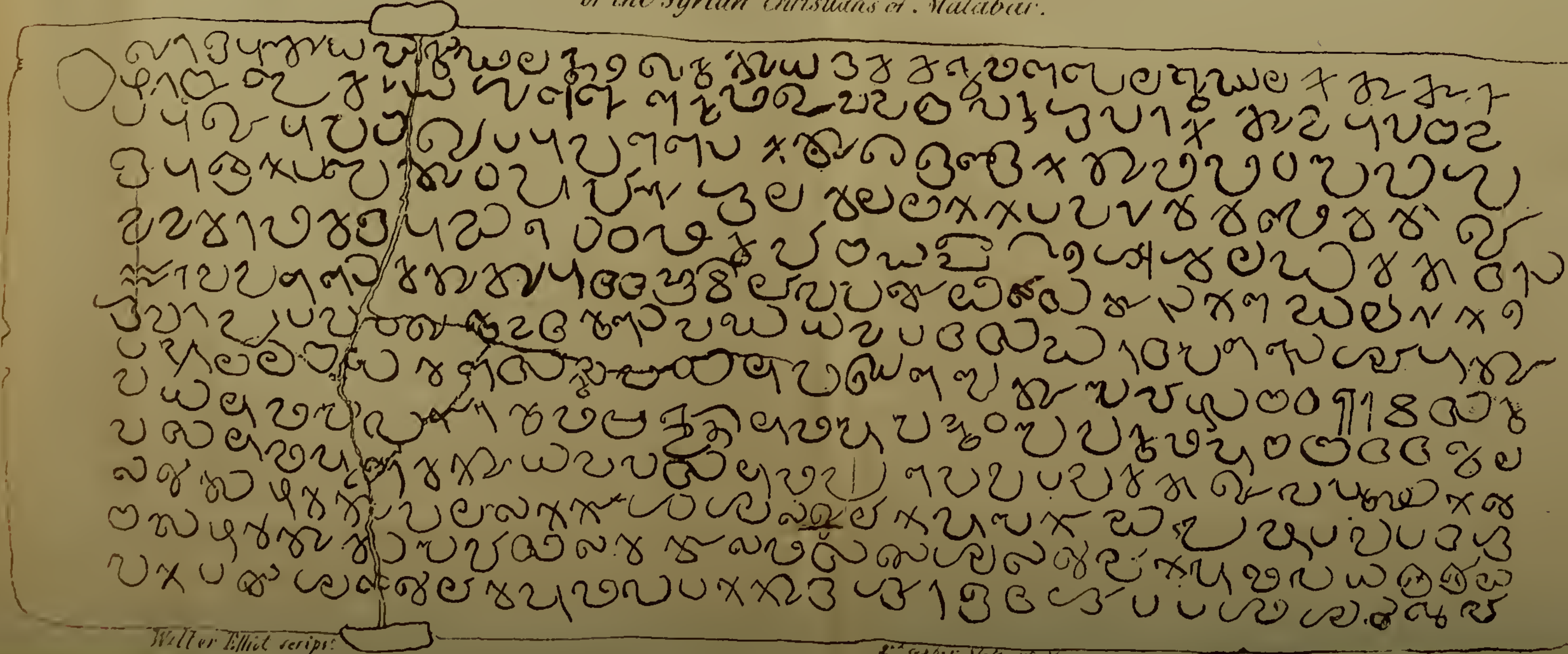
2. "The യഷ്ഠാക്കൾ, whom Native books oppose to the party just mentioned as a class of stedfast confessors, exist still in the South of Travancore, have their ceremonies conducted by Syrian Priests, and differ from Nazranis merely only by their preserving the hair tuft." I see no reason, to give up my former conjecture of the identity of യഷ്ഠാ, and the തരിസാ of the inscription; (fr. such dialectical changes as வாயில வாதில (Mal.) வாசல, but venture yet somewhat farther to attempt an indication what the Tarisa Church originally was. I find in John de Monte Corvino's travels, that the Nestorians in China and Tatary were called "Tarsa;" the word is there spoken of as of Mongolic etymology. Might it not be derived from Tarsus, since the heads of the Nestorians (such as Diodor of Tarsus) were from Cilicia, and the whole sect may have affected to derive their origin from Paul's birth place. This hypothesis will be easily refuted or confirmed by those who have access to original works on the subject.

3. "Curakkéni Collam." Tradition states that the Syrians came to this country in two bodies, one party landed near the modern Quilon at a place now engulphed by the sea, the other at Codungalur or Mahodeverpatnam. The practice in documents observed till within the last 80 years was invariably to mark to which of these 2 bodies a Syrian belonged; for instance കുറക്കേണിക്കൊല്ലംമുതൽതാഴക്കെരെതെരുവിൽകുടിയിരിക്കുംകുറിയുടുട്ടിൽമാത്തൻ and മറെ കാരെതാവർ വടക്കുംമുതൽമുട്ടത്തുങ്ങാടിയിൽ കുടിയിരിക്കുംവൃത്താൻവീട്ടിൽക്കുഞ്ചൻ]



1st copper-plate

Fac-simile of a Copper Sasanam in the possession of the Syrian Christians of Malabar.



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2nd copper plate, 1st side

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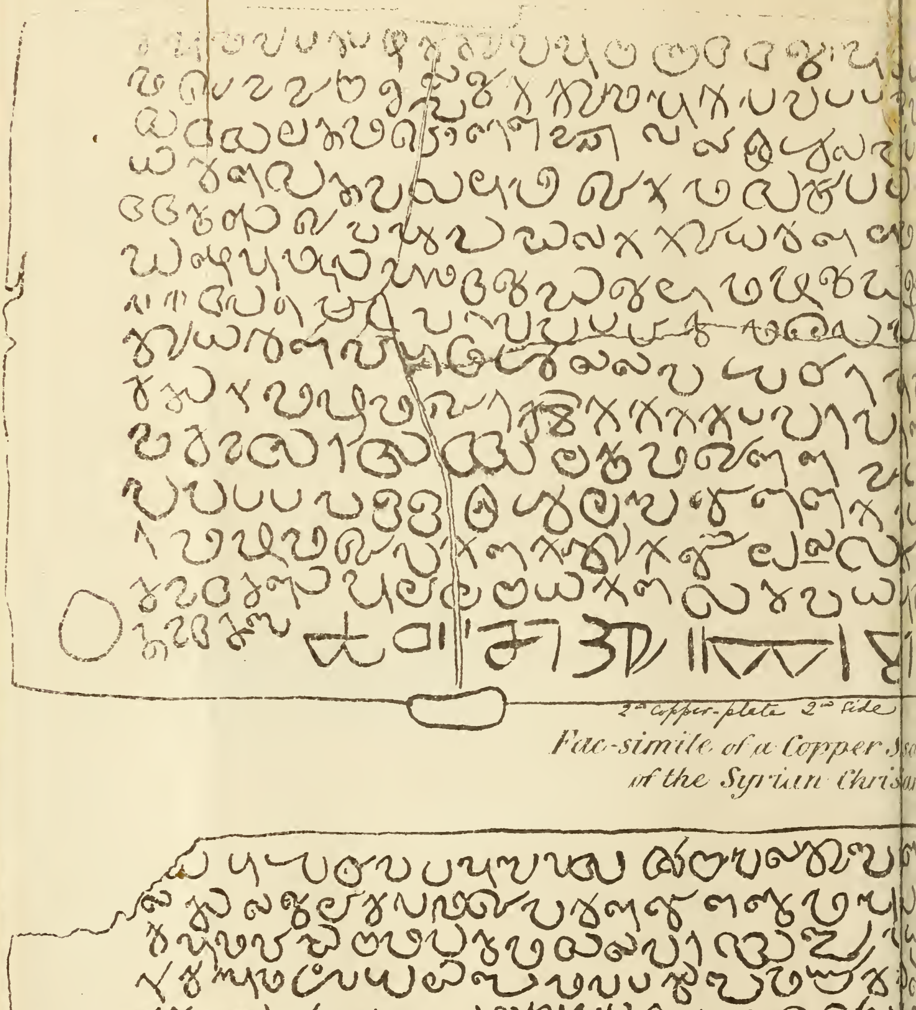

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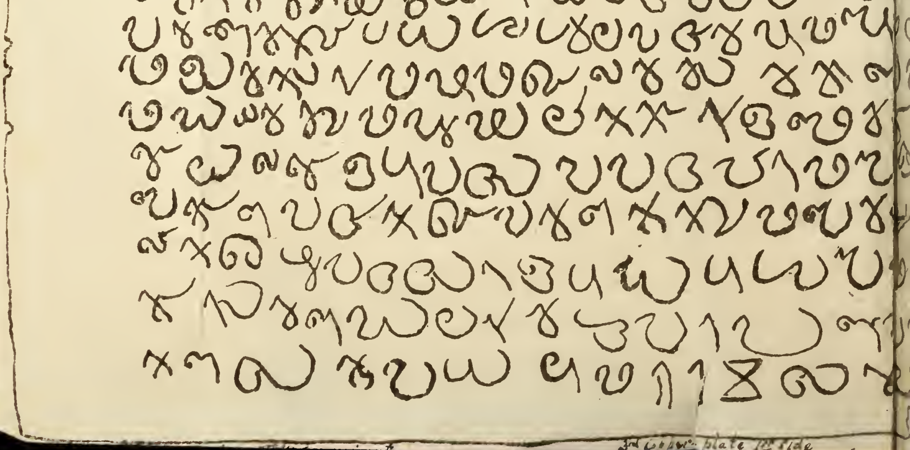
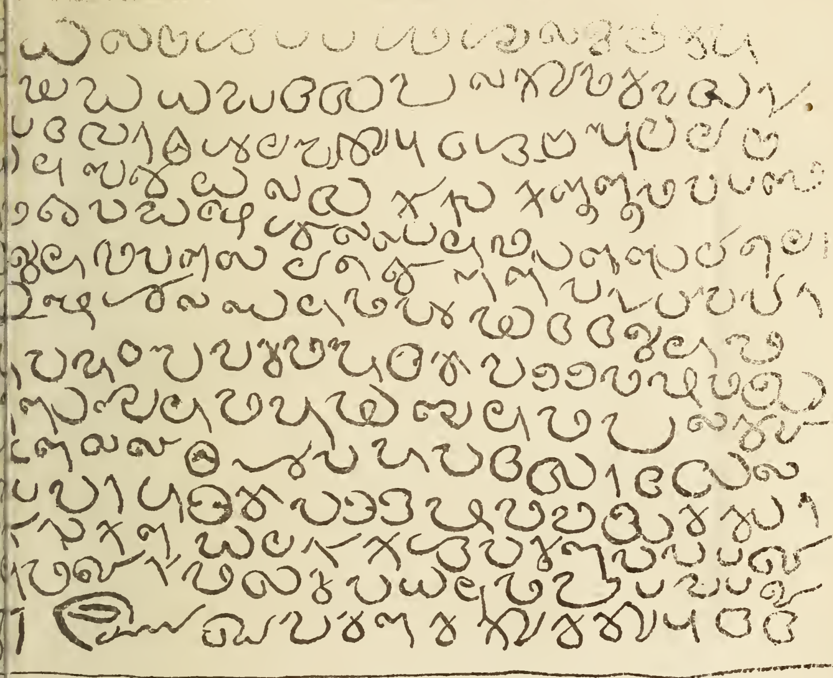


3rd Copper-plate 1st side



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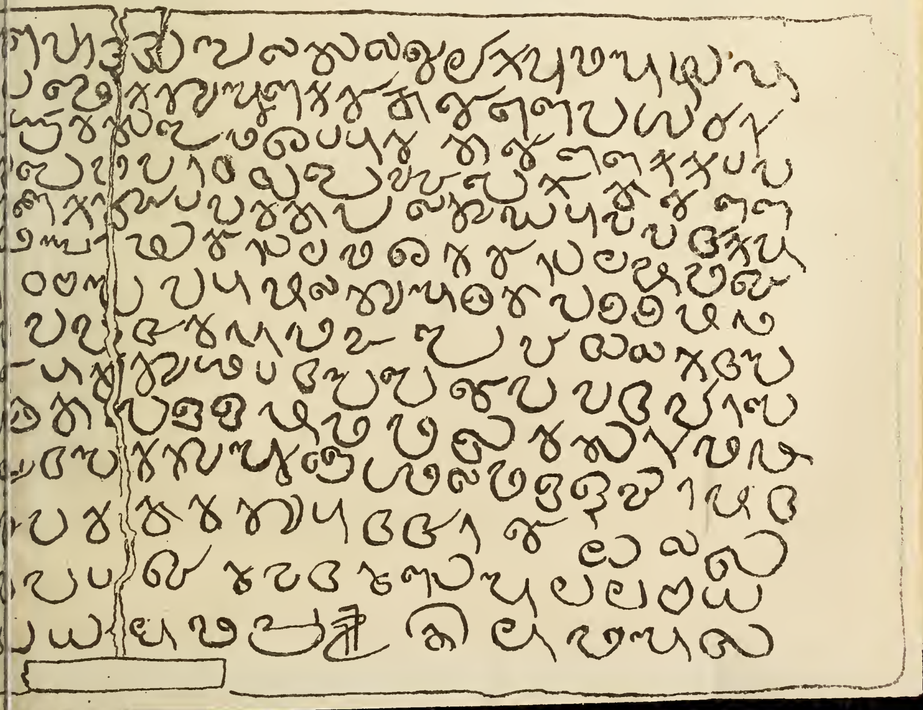

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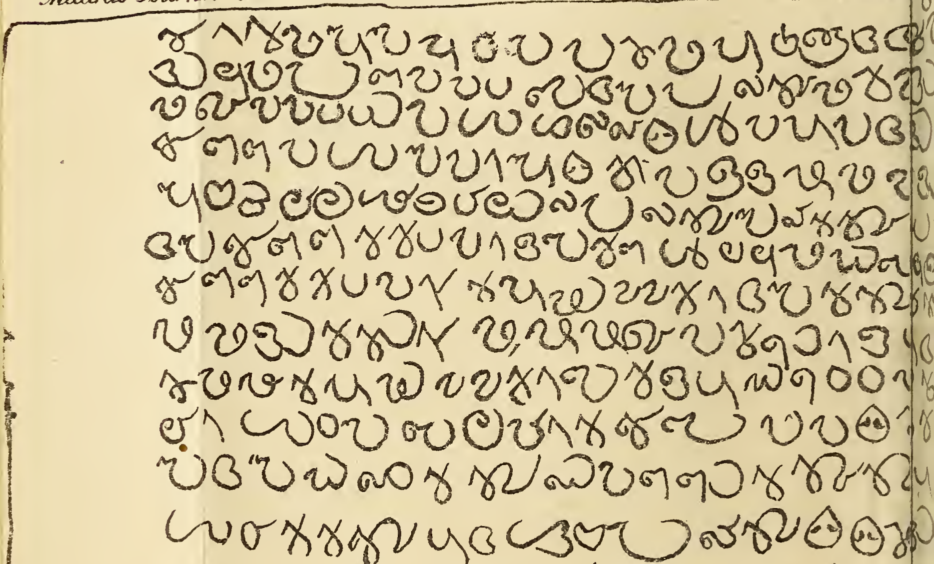

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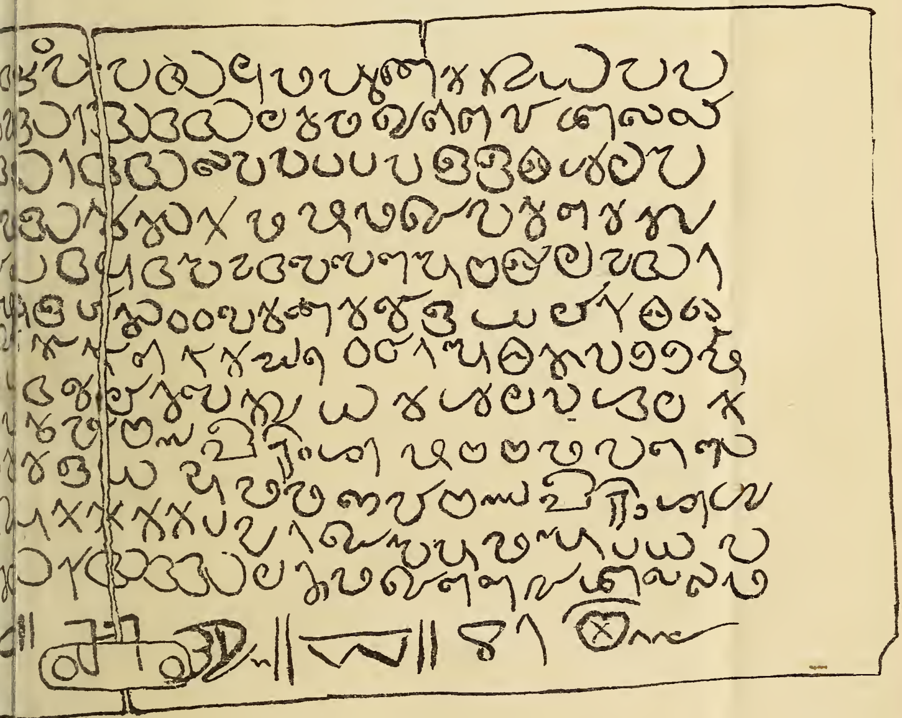

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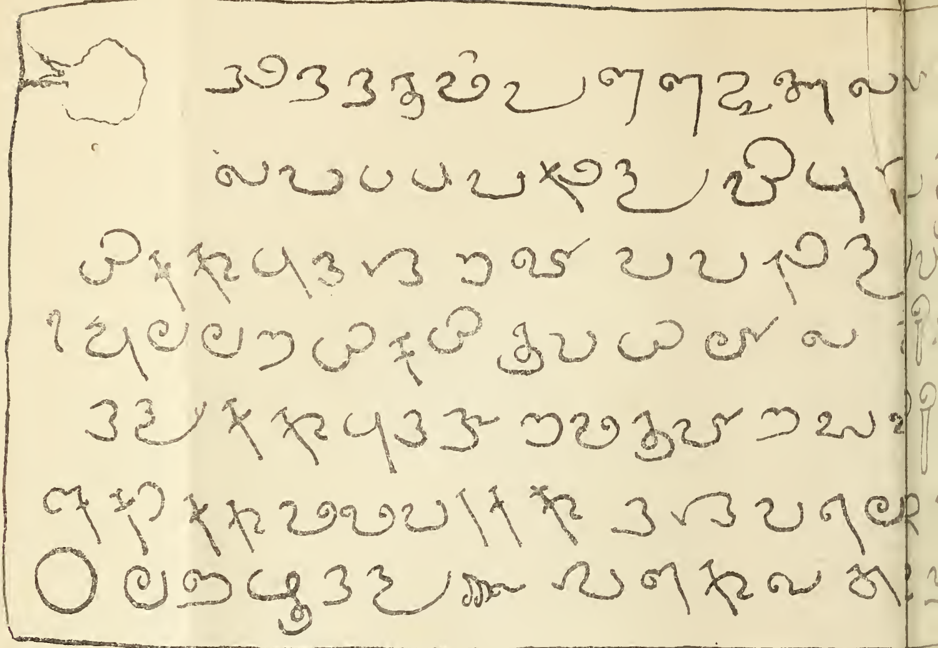

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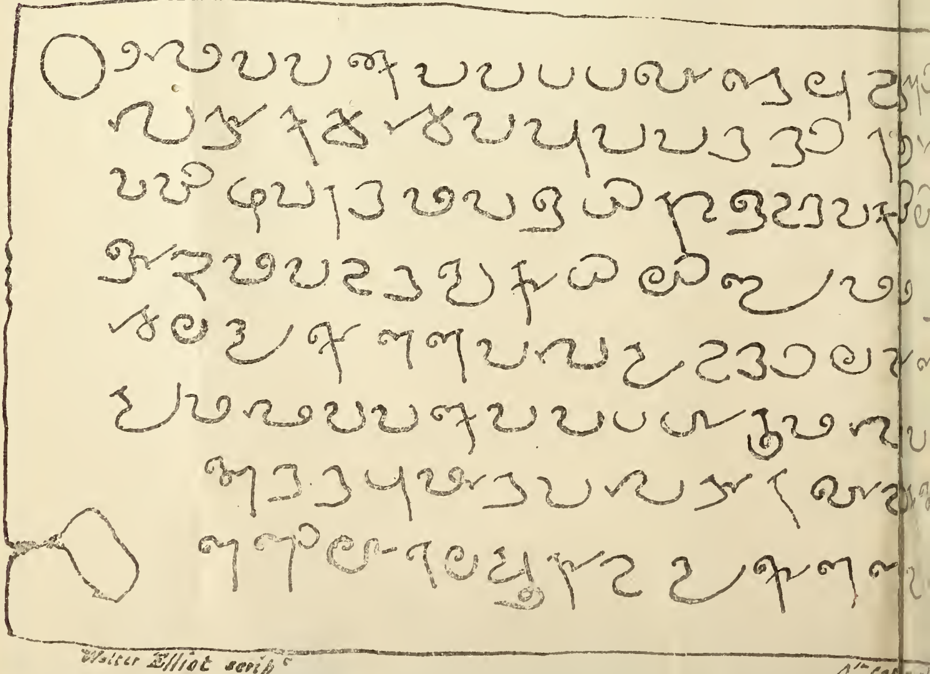

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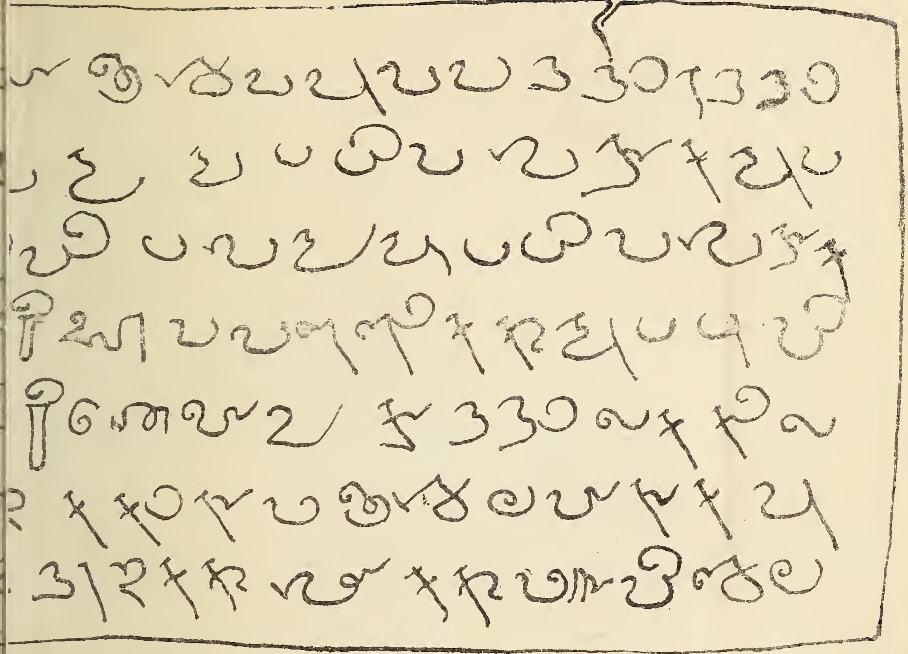

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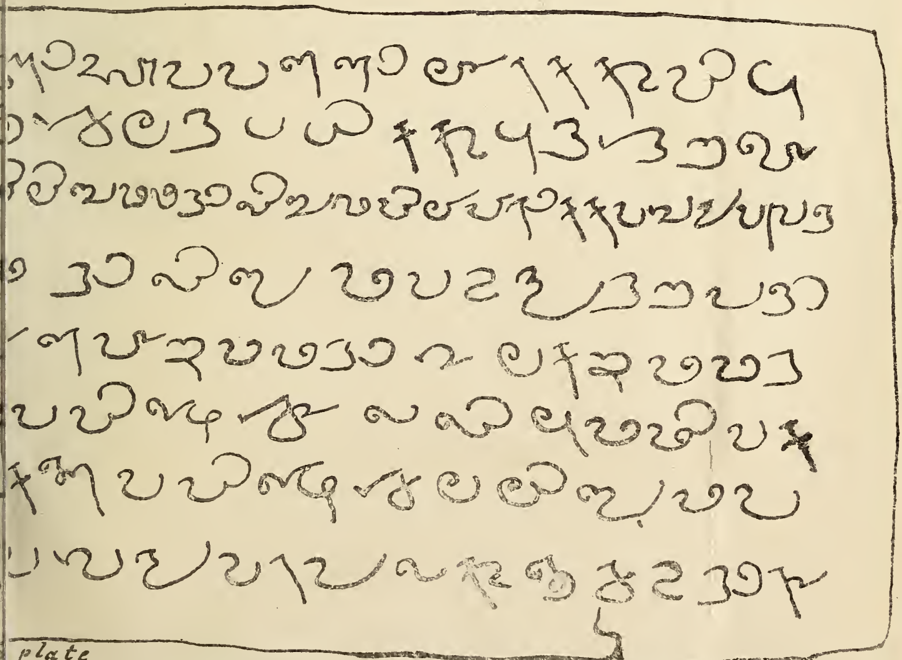

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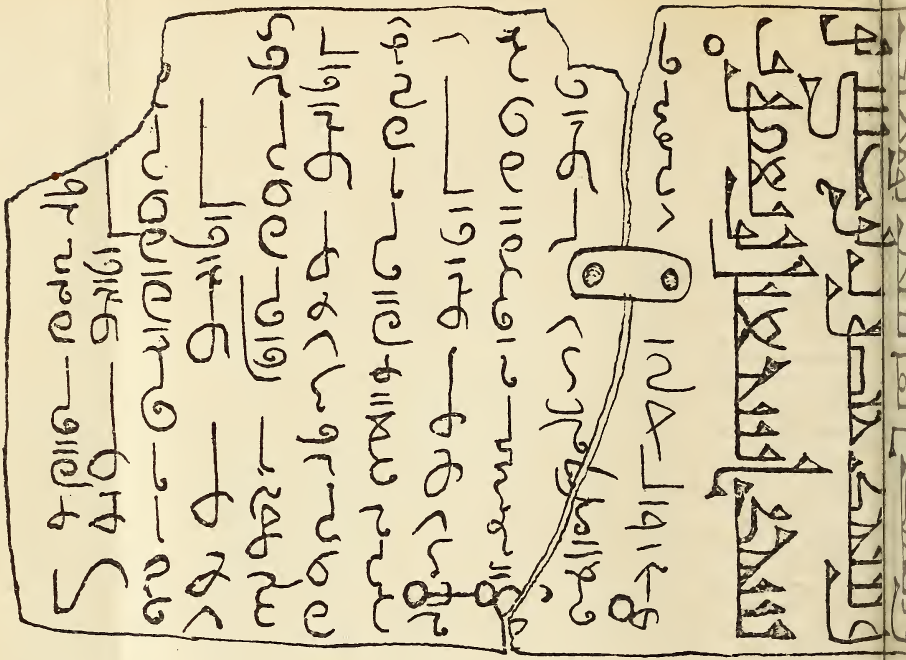
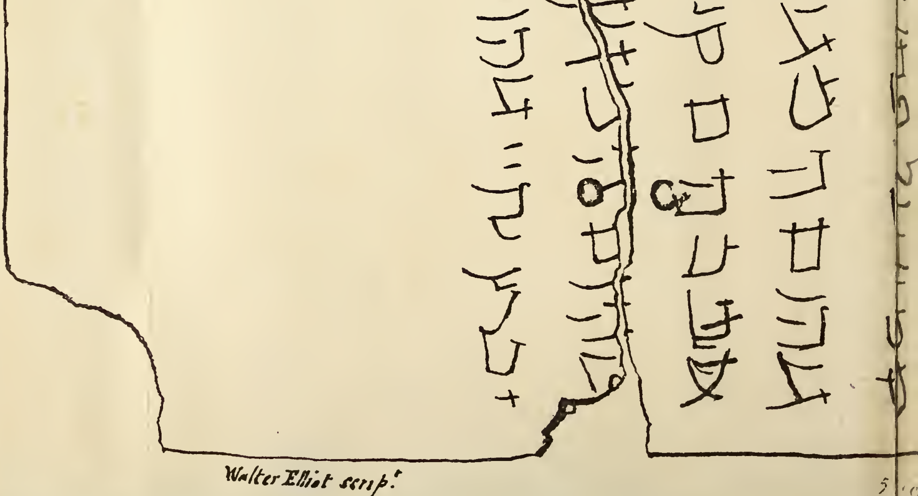


Fac-simile of a Copper S

Syrian Christian



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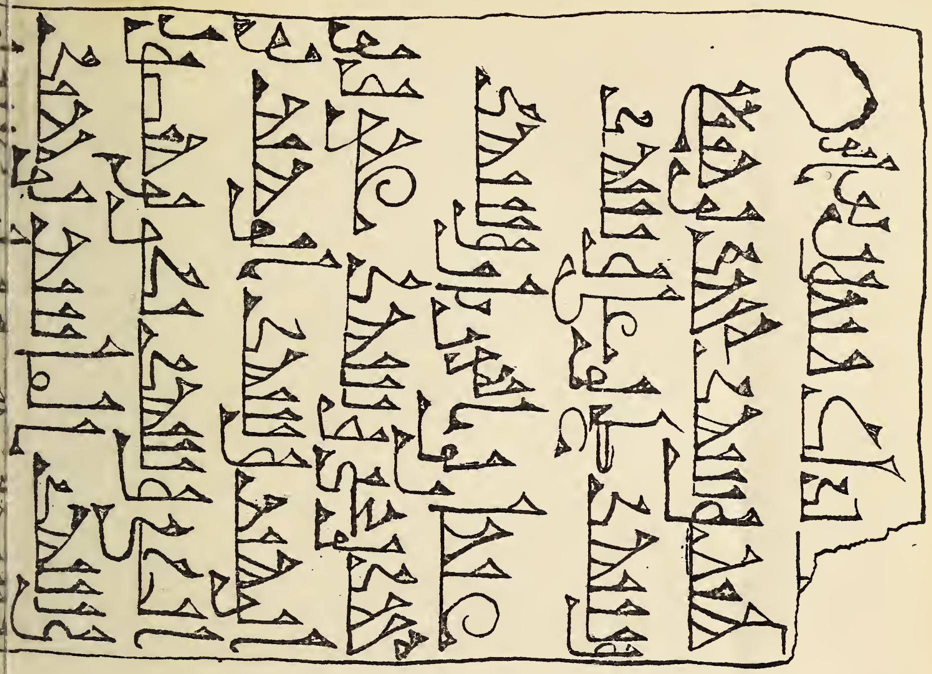

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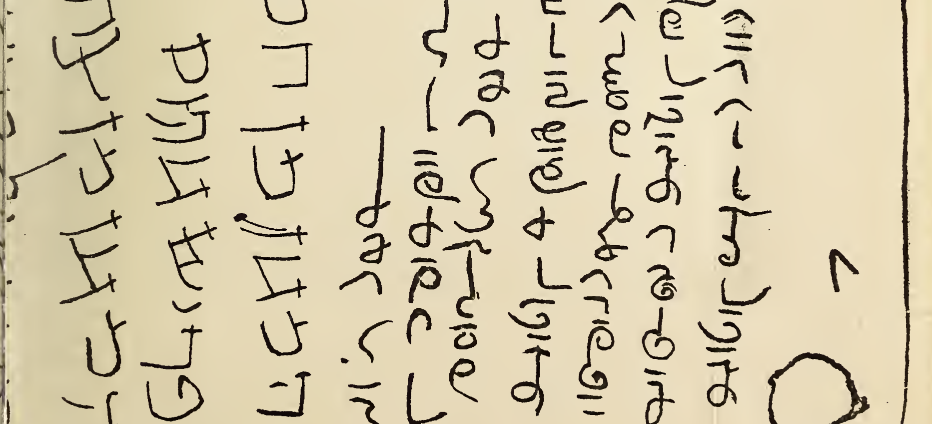


copper plate

IV.—*Farther observations on the Pondicherry Fossils by C. T. Kaye Esq.*

In the Madras Journal of Literature for November 1840 I attempted to describe the beds of fossiliferous limestone in the neighbourhood of Pondicherry and ventured to express a hope that further researches would lead to interesting and important discoveries. That expectation has since been fully realized. In Dr. McLellan's Calcutta Journal for July 1841 vol. II. No. vi. p. 238 some particulars of these discoveries were given, but since that account was written, our acquaintance with the fossils of the deposit has made still further progress, and I am therefore induced before quitting the country, to leave a short notice of the organic remains which the rock contains. I do not indeed attempt to particularize the numerous variety of marine shells, as to do so requires a much greater knowledge of conchology than I possess, and perhaps the most experienced conchologist could hardly hope to describe them without an opportunity of comparison with collections, which the museums of Europe alone contain. A few of the principal and most curious of these remains will therefore be alone noticed.

Nautilus.—This shell was first discovered in January 1841 in large numbers. Dr. McLellan distinguished three species, but as they have been described in his number they do not require any further notice at present.

Ammonites.—A very great variety of this extinct shell, I think at least thirteen or fourteen distinct species, have been discovered since the communication in Dr. McLellan's journal was penned. These in general run small, a few only of considerable size having been found. Many of the species appear to me to be remarkable, from the absence of those bars and bosses which usually fortify the European species, and after a careful examination of Sowerby's Min : Con : and

other works on fossil Geology, I have been unable to identify with certainty any one species.

Baculites.—One of the most striking peculiarities of this rock is the abundance of Baculites which it contains, some of these are of considerable size. No complete specimen however has been found,—the largest which I have, is about 7 inches in length and two at the greatest breadth. Of this 5 inches is the outer chamber which contained the body of the animal - the shell when entire was probably 17 or 18 inches in length, and allowing 1 inch for an evident fracture at the mouth, it will be seen, that the outer chamber constituted, at least one third of the whole shell—but Dr. Buckland ranks the Baculites among those shells of which the external chamber was not sufficiently large to contain the entire animal. This Fossil appears to be rare in Europe, but many larger masses of stone at Seedrapet were almost composed of Baculites—it sometimes consists of beautiful calcareous spar, with the foliated sutures most elegantly marked on the surface,—in other specimens the outer shell is preserved, and the fractured end frequently displays the form of the septa in a very perfect manner.

Hamites.—A great variety of shells, evidently allied to the European order of Hamite has been discovered. Some specimens are merely hooked at the smaller extremity—others are curved throughout their entire length—the ribbings or undulations are also various, some being minute and others bold and distant from each other—the sinuous edges of the chamber are frequently visible, and the fractured end, as in the Baculites, often well exemplifies the form of the septa.

Belemnite.—The existence of this Fossil is still doubtful.

Orthoceratite.—Three or four specimens of the species of this shell were found apparently exactly resembling the *O.*

cinctum of Sowerby, though this shell is rare as late as the secondary strata.

Echinus.—I think 4 species of Echinus have been discovered—the most common exactly resembles the *Spatangus cor marinum* of Parkinson : it was collected in considerable numbers in the ploughed fields at Seedrapett.

Zoophyte.—Three or four species of Zoophytes have been found. By far the most common, is the one mentioned in the Madras Journal for November 1840, and at first mistaken by Dr. McLelland for the teeth of Saurians. It is found in great numbers—considerable masses of stone, consisting sometimes of numerous individuals cemented together in a solid mass and presenting curious and interesting sections. Further acquaintance with this fossil induces me to consider it a species of Turbinolia.

Fossil Wood.—Many specimens of Calcareous fossil wood have been found, which generally wear the appearance of having been drifted long at sea. They are generally bored by a species of Teredo, the long tubes of which are sometimes so closely packed, as to leave little of the original substance remaining. The cavity of the tube is filled sometimes with calcareous spar, at others, with a dark and hard lime stone. Transverse sections of these specimens when polished, present a beautiful and curious appearance.

Fishes Teeth.—I have lately been very fortunate in obtaining these interesting fossils—they are of a small species,† retain their polished surface, are of a brown colour, and a few with serrated edges.‡

The above are the principal and most interesting Fossils found at Seedrapett—associated with them are a great num-

† For "small" I would read "shark."—B. C.

‡ Portions also have been discovered, striated, and of that dark enamel, belonging to the Sauroids.—B. C.

ber and variety of Marine shells, of which despite the hardness of the matrix, I have made a large collection. I have neither leisure nor ability to describe these fossils as they deserve: but I have forwarded to England a very complete series and have placed with Dr. Cole for the Madras Museum another set, which may be examined by those who are curious in these things.

In the number of the Madras Journal already alluded to, I noticed a bed of fossiliferous limestone existing at Ootatoor in the Trichinopoly district. I have never been able to visit this spot—but have had opportunities of examining several cart loads of the stone. It is a dark and fine-grained limestone, containing bivalve and univalve shells in great abundance, and in a wonderful state of preservation. In all the specimens the shell itself remains, and in many instances retains, not only its pearly lustre, but even a portion of its original colour. Many of these shells are probably undescribed. The univalves appear chiefly to be of the genus Rostelleria, but without an opportunity of comparing them with other specimens it is impossible to state this with certainty. Among the bivalves however I must particularly notice one so exactly resembling the *Cardium Striatulum* described in Sowerby's Vol. VI. Page 101 that we may perhaps be justified in considering it identical. The *Cardium Striatulum* is said to be found in the limestone immediately above the Coal at Brora, but as this would argue a very high antiquity for the deposit in the Trichinopoly district, we must not be too hasty in coming to a conclusion on the subject. I have alluded so particularly to this shell because as will be presently seen, this is not the only situation in which I have found it.

Although I have examined a large quantity of the limestone from Trichinopoly I have met with only one instance of the extinct families of chambered shells peculiar to the secondary

rocks—this consists of the cast of a single chamber of a very large Ammonite—it is in a beautiful state of preservation, and retains the foliated edges at the sides and the groove for the siphuncle on the back, very distinctly marked—it is six inches in height and must therefore have belonged to a very large shell, greatly exceeding in size any of those found at Seedrapett. But this as will be shewn hereafter, is not the only evidence which we possess that the deposit at Ootatoor in Trichinopoly is to be described to an age of gigantic Ammonites.*

In a former number of this Journal Lieutenant Newbold suggested that the fossiliferous beds of Pondicherry, probably extended into the Verdachellum talook of S. Arcot. It was long before I was enabled to obtain any positive evidence of this fact, and it proves how little dependence can be placed on Native evidence, that all enquiry among those who ought to have been best acquainted with local circumstances, failed to elicit the required information. Accident however subsequently established the correctness of Lieutenant Newbold's views and the sagacity with which he had drawn his inferences. Mr. Murray the Sub Collector of South Arcot in the course of a ride about 6 or 7 miles from Verdachellum, observed that the surface of the rock by the side of the road, was marked with shells, and was kind enough to send me a few specimens. It consisted of an impure limestone, containing much earthy matter, and a number of bivalve shells, resembling pectens of 2 or 3 species. One of these shells closely resembles the *Pecten Beaveri* in Sowerby's Min. Conc.II. P.131—another nearly resembles the *Pecten quinque costatus*. I afterwards received a further supply of the rock, but failed in obtaining from it any further variety of fossils.

In November last however I was enabled to pay a short visit to Verdachellum for the purpose of exploring the deposit. The formation round Verdachellam struck me at first

* I have also met with the teeth of fish in this formation.—B. C.

sight as nearly resembling that at Trivicary—it consists of the same friable red sand, interspersed with the same small rounded quartz pebbles and the same indication of iron, and this same resemblance has been borne out by the subsequent discovery of a piece of silicified wood. The limestone containing the shells appears first at the bottom of a valley near the Village of Paroor 7 miles from Verdachellum—the high ground between it and Verdachellum consists of the red sand, but the limestone rises into small hills on the opposite side of the Valley. In the bottom there is a large Nullah, branching from the Verdachellum river. By the road side, the limestone appears in flat slabs, darkened by exposure to the weather, and the surface is thickly marked with the white Pectens—on descending however to the bed of the stream I was much surprised at observing one of the large univalves (Rostellaria) already mentioned, as characteristic of the Trichinopoly limestone—further search in this direction put me in possession also of a very large specimen of the shell mentioned as resembling the *Cardium striatulum*, which is also so characteristic of the same formation, and indeed I afterwards found almost all the Ootatoor bivalves in this locality, so as to connect the two deposits, beyond the shadow of a doubt.

But what rendered our researches at Paroor most interesting was the discovery of a large number of Ammonites. They are of 3 or 4 different species, and all of them as far as I could observe, different from those at Seedrapett. Some very large fragments have been found—one in particular, is a portion of the outer whorl of a very large shell—the stone containing it has the foliated edges of the chambers at the sides, and on the back of the convex surface, the groove of the siphuncle may be easily traced. Adhering to the under or concave portion of the fragment, is a portion of the siphuncle of the inner whorl in a singular state of preservation.

The depth of this whorl must have been at least 7 inches,

and must therefore have belonged to a very large Ammonite. We have this evidence that when this deposit and that at Ootatoor in Trichinopoly were in the course of formation, gigantic Ammonites still inhabited the Ocean, which covered that portion of the globe, which is now the South of India.

The most common Ammonite at Paroor is however a small species—it has a small umbilicus, and the outer whorl conceals the inner ones : it is remarkable for a very distinct and well defined ridge along the back over the siphuncle.

There are also portions of Nautili at Paroor, apparently similar to those at Seedrapett—and I have an Echinus from this locality which I cannot distinguish from the species of Spatangus found at the former place‡

The discovery of this deposit near Verdachellum, appears te be of much importance—further research in this neighbourhood will probably demonstrate that the formation is a connecting link between those of Ootatoor and Seedrapett—it undoubtedly proves that the fossils of Ootatoor, many of which are so fresh as actually to retain a portion of their color are to be ascribed to the secondary Œra—and while it contains many shells which are common at Ootatoor, it holds also the Nautilus, Echinus, and Ammonite which are the characteristic fossils of Seedrapett. It is highly probable also that a series of intercalated secondary sand and limestones may be hereafter traced through this portion of the Peninsula of India, and I sincerely trust that the unexpected success which has attended the researches of Mr. Cunliffe and myself, may prove an inducement to others to prosecute a science hitherto almost totally neglected in this part of India, but which will from this very fact, be found more amply to repay its votaries.

‡ The genus Cidaris however was numerous at Paroor, though as yet undiscovered at Seedrapett, and the baculites of the latter were wanting at Paroor : and not a single chambered shell, save the fragment above mentioned, has been found at Ootatoor.—B. C.

[Note.—Some interesting observations on the organic remains above described, when recently exhibited before the Geological Society in London will be found in the Miscellaneous Notices at the end of this No.]

V.—*On a fragment of Greek Pottery from Affghanistan.*

The recent transactions in Affghanistan however unfortunate in their political results, have at least served to increase our knowledge of the earliest recorded connection of civilization with the still barbarous inhabitants of these inhospitable regions. The discovery of the finely executed coins of Græco-Bactrian sovereigns has enabled us to trace the progress and gradual decay of the colonies planted by the Macedonian invasion and contributed a list of princes whose very names were hitherto unknown; and it was chiefly from these that the antiquarian acumen and tact of the late James Prinsep was enabled to trace the introduction into this country of an improved style of coinage by the substitution of the dies of the Greek artists for the rude punches and moulds previously employed in the Indian mints. The researches of others were rewarded by the acquisition of gems and seals engraved in the best style of art and the silver Tazza with the story of Silenus obtained by Dr. Lord in Budakshan and again unfortunately lost in the sack of Sir A. Burns' house in 1841, is familiar to all.

The fragments of a Greek fictile vase lately exhibited at the meeting of the Society and of which a figure is here given, afford an additional record of the cultivation of Grecian taste in an uncongenial clime, for tho' some of the other relics, lately discovered, might have been transported from the parent soil, it is hardly possible that so fragile an article as a terracotta vessel could have been brought from any distance.

The fragments in question are $3\frac{4}{10}$ inches in length by $1\frac{6}{10}$ inches in breadth and seem to have formed the handles of a vessel as shown in the restored sketch. They display a female figure in flowing garments, the right hand holding something like a cup, the left what may be taken for a wreath

Fragment of Greek Terra Cotta; found near Gundamuk, 1842.

[illegible]

or chaplet. The attitude of the figure and the disposition of the drapery are peculiarly elegant and graceful and afford indisputable evidence of their connection with Ionian art.

Lieutenant Cunningham late of the Shah's Sappers who brought them from the Jellalabad valley, gives the following account of them "I have but little to add to what is said in the following letter regarding the finding of the terracotta fragments. Major (then Captain) Burn was commandant of a regiment of Afreedis called the "Kyhber Rangers" and was quartered in open cantonments at Gundamuck at no great distance from the spot on which these figures were discovered. On my second visit to Cabul with the Army under General Pollock I climbed the hill, but, as you may suppose, not under the most favorable circumstances for antiquarian research, and found nothing to reward me for my trouble. I may mention however that it overlooks, and is within long musket shot of the hill on which the remnant of the unfortunate Cabul force made their last stand on the 13th January 1842. How strange it is to reflect that, a narrow camel-track divides two eminences one of which is covered with fragments of Grecian funeral urns, and the other is whitened with English bones. So much for the two European powers which at a distance of twenty centuries held sway amid those bleak mountains. I may also add that on the 11th of November 1841, the box containing these precious relics fell into the hands of the enemy, and was recovered by singular good fortune many months afterwards. This is Major Burn's Note.

"Jellalabad 30th June 1842.

"My Dear Cunningham,

I have the pleasure to send you the clay figures which I picked up near Gundamuck at the distance of about a mile and a half on the Cabul road They were on the very top of the hill. Its sides were strewn with broken pieces of pottery of similar clay to that of which the figures are moulded. Some of these pieces bore evident signs of having been parts of a large Vase—the

fragments being partly flat and partly curved ; which would lead me to believe that the Vase or pot must have been a flat bottomed vessel. I had a piece of this description laid by, but I am sorry to say it has been lost.

(Signed) H. P. BURN.

From Major Burn's observations it is probable that the vessel to which the handles were attached was of a flatter shape than that represented in the drawing.

VI. *Supplement to the Catalogue of Birds of the Peninsula of India, by* T. C. JERDON, ESQ.

(*From No.* 29, *page* 227.)

[NOTE.—In consequence of the suspension of the Journal, this article was printed by the author and circulated among his friends—but has never hitherto been published.]

No. I.—*Vultur Indicus.*

This large vulture is by no means so common as the *Vultur Bengalensis,* and chiefly seen perhaps in the neighbourhood of mountainous and jungly districts. I give the dimensions of one killed in a valley on the range of Northern Ghauts between Kunner and Ajunteh. Total length 43 inches; extent of wings upwards of 8 feet; wing from flexure 29 inches; tail 12 ; tarsus nearly 5; mid-toe with claw 5 ; hind do. 3½ ; bill straight to gape 3. Irides brown; bill and cere bluish horny; legs dirty cinereous.

No. 6.—*Pandion lineatus ?*

This may have been the *Haliœtus Icthyœtus* (No. 8) which I have not yet observed myself.

10.—*Aquila bifasciata.*

I have some doubts whether this be a distinct species or not from the *Wokhab (Aquila Vindhiana),* but if they are identical, at what age and under what circumstances the white markings on the wings appear, I am not aware. I possess a specimen, shot in company with several of the *Wokhab,* which had the white bands though not distinctly defined. It was larger than the generality of that bird, and I give its dimensions for comparison.

Length $31\frac{1}{2}$ inches ; wing 22 ; extent of do. nearly 6 feet ; tail 11 ; tarsus $3\frac{3}{4}$; mid toe 3 ; bill to gape 3.

11. *Aquila Vindhiana.*

This eagle descends readily on carrion and drives away the vultures. I have seen 3 or 4 caught at once by a net over the carcass of a sheep. I saw a florikin struck down and killed by one sometime ago. I had slipped a luggur at it, and the falcon was in hot pursuit, when two of these eagles suddenly pounced down from a great height in the air, and pursued the florikin with much energy. One of them struck it down to the ground, but was driven off by my riding up. I found the florikin lying dead. The *Wokhab* builds in lofty trees, and lays one or two eggs of a dirty white, spotted chiefly at the larger end with reddish brown.

12, ter—*Nisaetus ? ?—ovivorus.*—new species ?—Same as No. 11 bis of the Catalogue.—*Neilgherry Black Eagle.*

Descr.—Plumage of an uniform deep blackish brown, lightest beneath—upper tail coverts pale brown, barred with white—tail barred with white, most conspicuously so beneath. Inner web of the quills faintly barred with light greyish. Cere, gape, and feet deep yellow ; bill greenish horny, black at tip ; claws black ; irides dark brown.

Length of a female $30\frac{1}{2}$ inches ; wing 23 ; tail 14 ; tarsus 4 ; bill at gape $2\frac{1}{10}$; height at base 1 ; inner toe $1\frac{4}{10}$; do. claw $1\frac{9}{10}$; centre toe $1\frac{6}{10}$; claw $1\frac{2}{10}$; outer toe $\frac{9}{10}$; claw $9\frac{9}{10}$; hind toe $1\frac{3}{10}$; claw $1\frac{7}{10}$; weight 3 lb.—Of a male—length $27\frac{1}{2}$; wing 22 ; tail 14 : of another—length 29 inches ; wing 23 ; tail 14 ; tarsus $3\frac{6}{10}$; bill at gape 2 ; straight to front $1\frac{1}{2}$. Extent of wings 68 ; centre toe $1\frac{5}{10}$; claw $1\frac{2}{10}$; inner toe $1\frac{2}{10}$; claw $1\frac{8}{10}$; outer toe $\frac{8}{10}$; claw $\frac{8}{10}$; hind toe $1\frac{2}{10}$; claw $1\frac{5}{10}$; weight $2\frac{1}{2}$lb.

Bill bending from the base, with a well marked festoon in

the upper mandible—4th and 5th quills nearly equal and longest—1st a good deal shorter than the 2d—2d nearly as long as the 3d—closed wing as long as tail which is slightly rounded.

This remarkable eagle I have placed for the present, though with doubt, under the genus *Nisaetus*. It differs from it in superior length of wing and tail—its shorter tarsus, shorter toes, and more especially in their comparative size—the outer toe and claw being remarkably small, and the inner claw of very great size. The extreme shortness of the outer toe, is, as far as I can recollect, peculiar to it among the diurnal *Raptores* of this country, though common among the owls. Its habits too are, as far as I know, peculiar, and differ from those of the other Indian *eagles*.

I have lately procured two specimens of this curious eagle (the first I have been able to obtain, though I have frequently seen it), and a third specimen shot by S. N. Ward, Esq. has also been examined by me. It hunts about the edges of the hills more generally than on the higher parts of the table-land, and most frequently over bushy ground, though I have also seen it over forest, both on the top of the hills and half-way down the Coonoor Ghaut. It sails slowly along with very little motion of its wings, usually very close to the ground, hunting tolerably regularly, not unlike the *Harriers*, and like them hardly ever alights except for the purpose of feeding.

In the three specimens I have examined I found that eggs and nestlings had formed its only food. Among these I recognized the eggs of the hill quail (*Coturnix erythrorhyncha*) of the *Thimalia Somervillii*, and of some doves (*Turtur tigrina* and *T. Cambayensis*) besides others I did not know, and several nestlings. I have seen it, since I procured my specimens, alight for a few seconds on a large bush over which it had been circling for some time, and apparently devour

something. I found in this bush a dove's nest empty, which it had evidently robbed. This eagle thus appears to be habitually a robber of birds' nests, and as doves, as well as some other birds, breed throughout the whole year, it can probably sustain itself mostly on its favorite food, though it doubtless occasionly destroys young, feeble or sickly birds, and perhaps reptiles.

I may mention that the specimens I procured were beginning to moult, and the new feathers appear darker than the present ones, in some parts almost black indeed. I have not seen it in any other locality.

14.—*Circaetus ? undulatus.*

Specimens shot lately in the northern part of the Peninsula shew a larger size than those procured in the southern jungles. I give the dimensions of one I shot at Dowlutabad tank. Length 33 inches; extent of wing 62; wing from flexure 21; tail 14; tarsus $4\frac{1}{4}$; bill straight to gape $1\frac{9}{10}$; mid-toe with claw 3. This sub-genus of *Circaetus,* which differs in its straighter bill, and shorter wings, may be named *Ophaetus* in reference to its usual food.

18.—*Pernis cristata.*

I have lately procured one or two specimens on the Neilgherries—apparently young birds, which have the whole of the under plumage white with the shafts of the feathers alone brown—the head and neck, too, are of a much lighter shade, with a dark eyestreak. In these specimens the crest was well marked.

19.—*Pernis Elliotti.*

Since the first part of this Catalogue was printed, I have met with this *Honey Buzzard* near Jaulnah. I find from a specimen shot in a state of moult that it changes the white

under-plumage to pale brown, as the European *Honey Buzzard* and the crested species are known to do. It differs from the *Pernis cristata* in a shorter and higher bill, in having a yellow cere in its less conspicuous crest, and more curved talons, &c. &c.

20.—*Spizaetus milvoides.*

I have met with this curious bird several times since the first remarks were written. The young bird of the year is white beneath, with brown streaks, and has some white about the head and neck. This change of plumage seems common to many of this family (*Buteoninæ*) viz. the *Buteo Teesa*—*Buteo longipes*—*B. vulgaris*, all the *Honey Buzzards*, and even the kites (*Milvus Cheele*) though in a less degree; the under-plumage of that bird being brown with large blotches of creamy white. I was informed by my Meer Shikar that this bird had a very keen sight, and that it pounced on squirrels, doves, pigeons, &c. on the ground from a great height. In two specimens I obtained, the remains of squirrels were found—verifying this observation, which its habit, as observed at Trichinopoly, of pouncing upon tame pigeons, chickens, &c. also confirms.

Irides brown.

21.—*Buteo longipes.*

The living bird mentioned in the Catalogue, which I considered a young bird, had very nearly completed its change from the white of the head and lower parts to the adult plumage, as described, when it was killed.

Is this bird the *Haliœtus Macei*, of French authors ?

23.—*Circus pallidus.*

From an examination of many specimens, and access to fuller descriptions of the European *Harrier*, I am induced to consider this bird as identical with the *Circus cyaneus* of

authors. It does not breed in this country, migrating in March or April from the northern parts of the Peninsula, and returning in October or the end of September. The two next species of *Harrier* (*C. cineraceus* and *C. rufus*) are also migratory.

28.—*Falco luggur.*

This is undoubtedly the *F. juggur* of Gray, figured in Gray and Hardwicke's Illustrations of Indian Zoology: but, as in this genus the female is considered the noblest of the two, it may perhaps be permitted to retain the appellation of the female in the Indian language which I had bestowed on it; the more so, as no description of it has appeared.

The young bird of the year is entirely dark-brown, except the chin which is white, and the head which has a fawn tinge, more strongly marked in some than others. The future changes of plumage of this falcon consist in the brown of the lower surface being gradually replaced by white from the throat downwards—in the brown of the upper parts assuming a cinereous tinge, and in the fawn colour of the head becoming darker and more rufous.

I have had several of this falcon in my possession trained. It is most usually flown at the crow from the hand, but it is also taught to stoop on partridges, florikins, &c.

29.—*Falco Aldrovandi,* Temminck.—The *Shaheen.*

I was misled by the description of this bird in Griffith's Cuvier (where it is stated to be only ten inches long) to consider it as undescribed. The young bird is dark-brown above, chestnut beneath, marked with brown drops. The colour above darkens on the head, neck and shoulders, at each successive moulting, till it is nearly black, whilst it becomes slaty cinereous on the back and rump. The brown drops gradually disappear from the throat downwards, and the throat

and breast become paler by age, almost white indeed; in a very old bird the chin is pure white.

31.—The *Kestril* disappears from the plains of the Peninsula during the hot weather and monsoon for the purpose of breeding; but on the Neilgherries it is a permanent resident and breeds in clefts of rocks in March and April.

33.—The *Basha* of Indian falconry is undoubtedly, as Mr. Elliot suspected, the European *Sparrow-hawk, Accipiter fringillarius.* I have seen living specimens at Hyderabad, and one now in Mr. Elliot's possession. It is migratory in India, coming in about October and disappearing in February or March. It frequents only the more wooded and hilly districts, and is most numerous towards the north of the Peninsula. Many used to be caught annually near Ellichpoor.

The *Basha* is highly esteemed by native falconers, being very speedy, and it is flown at partridges, quail, courier plovers, &c. &c.

No. 35 of my Catalogue, which I erroneously referred to the European *Sparrow-hawk,* is either the *Besra* of Indian falconry (No. 34 of the Catalogue) or some closely allied species, perhaps, as it was named by one Meer shikar to whom I showed it, the *Khandesra.* It appears to differ from the *Besra* (a male specimen of which I saw at Madras in a state of moult) in its larger size, and in retaining the upper brown plumage, after the lower parts have assumed their transverse markings, while in the one I saw at Madras, said to be in its first moult, the new feathers were dark cinereous or slaty. Are either of these the *Nisus Soloensis* of Horsfield?

No. 36. The specimen of *Goshawk* I procured on the Neilgherries is undoubtedly a new species, differing from the *Baz* in its smaller size. It appears to be the same as one described apparently by Mr. Hodgson in the Bengal Sporting Magazine for 1836, as the *Astur Indicus.*

I have lately procured a specimen of the female of this bird, shot on the Khoondah range of the Neilgherries, and add a few particulars of her size.

Total length 17½; wing 9½; tail 8; tarsus 2½; bill at gape $1\frac{2}{10}$.

It has a distinct rather long occipital crest, and the markings of the throat and breast are much more numerous and larger than in the one I formerly procured. Is this bird the *Gorbesra* of Indian falconry?

36.—bis.

The *Astur Palumbarius* or *Baz*, however, may also be enumerated as an Indian bird. It is chiefly found in the more northern parts of Hindostan, in the cold weather only, but stray birds are said to have been found in the Peninsula, and I think I have lately observed it on two or three occasions near the summit of Dodabetta, the highest mountain on the Neilgherries.

The *Baz* is most highly esteemed in India, a trained bird being seldom sold for less than 1000 Rupees. It is flown chiefly at hares, large ducks, and at the *Bustard*. It will readily strike down the common kite and also the white vulture (*Neophron percnopterus*).

79.—*Myophonus Horsfieldii*. I suspect this bird to be one whose note is well known to residents at Coonoor and Kotagherry, and other places on the edges of the hills. It is exactly like a boy whistling, so much so as to deceive you most completely.

123. *Sylvia montana*. This bird is not uncommon on the Neilgherries.

162. *Sturnus contra*. This is the well known *Ablukah* (i. e. *Piet*) of India, which is frequently caged for its song. It is common about Hyderabad.

242. This is the *Merops Athertoni* of Jardine and Selby's Illustrations of Ornithology, the *Nyctiornis ceruleus* of Swainson. Its genuine name, however, appears founded on erroneous information, as it feeds during the day, and the note of the *Bucco viridis,* seems to have been mistaken for that of this bird, which has a loud rolling warble. It pursues insects from its perch on a high tree, seldom returning to the same branch, but wandering from tree to tree. I have very lately procured it at the bottom of the Coonoor pass.

Irides deep ochre yellow; bill dusky, whitish at the base. Legs cinereous green.

285. This I see is the *Columba badia* of Raffles and Wagler; the *Col. capistrata.* of Temminck. I give the dimensions of one I shot lately on the Khoondah Ghaut.

Length 19 inches; breadth 26; girth of body 13; wing 9; tail 7; tarsus $1\frac{3}{10}$; bill at gape $1\frac{3}{10}$; at front 1; weight $1\frac{1}{2}$ lb.

20,—bis.—*Spizaetus punctatus.*—New Species?—*Spotted Spizaetus.*

Descr.—Plumage above glossy, hair brown, each feather pointed with whitish, and the upper tail feathers barred with white. Throat and neck unspotted brown; under surface of the wing coverts, breast, abdomen, leg feathers, and under-tail coverts fawn, barred transversely with brown. Quills glossy purple black, internally silvery grey, mottled and barred with dusky. Tail above glossy purplish-black, obsoletely barred with dusky grey, with a white tip, on its under surface the grey tinge predominates, barred with dusky; cere and feet yellow; bill and claws black; irides brown.

Length $26\frac{1}{2}$ inches; wing $18\frac{1}{4}$; tail $9\frac{1}{2}$; tarsus $4\frac{2}{10}$; mid-toe 1; do. claw 1; outer-toe $1\frac{2}{10}$; do. claw $\frac{8}{10}$; bill slightly bending from the base, nostrils small, obliquely oval; com-

missure straight; bill at gape $2\frac{2}{10}$; at front $1\frac{8}{10}$; 4th and 5th quills equal and longest.

The legs of this *Spizaetus* are more lengthened and less robust than in the *S. milvoides*; its feet and claws too are proportionally larger, and it differs otherwise in some structural points from that bird, which I would take as typical of this genus, for the *Falco Cristatellus* of Temminck, marked by Swainson under this genus, undoubtedly belongs to Hodgson's genus '*Nisaetus*,' and this to the '*Aquilinæ*,' whereas the *Spizaetus milvoides* and the present subject undoubtedly belong by their small feet and other points to the *Buteonine* family. I procured a single specimen of this beautiful bird in the valley of the Pennar near Laulpett. It was seated on a high tree; its stomach was quite empty. The colouring of the lower surface of this bird recalls that of the *Teesa* (*Buteo Teesa*), and Mr. Elliot's Meer shikar, to whom I showed it, called it the '*Pharee Teesa*'—i. e. hill *Teesa*.

21.—bis.—*Buteo rufiventer*.—New species?

Descr.—Above, pale brown; each feather edged with rufous—especially on the head and neck; rump and upper tail coverts uniform brown; tail pale rufous, with narrow brown bars, the last widest; quills grey-brown, white on the inner web, with brown bars (except at the tip); beneath nearly pure white, forming a conscpicuous broad white patch on the centre of the closed wing. Cheeks and throats whitish, each feather centred rufous brown; rest of plumage beneath a bright rufous or chestnut, barred with white; thigh coverts darker and not barred.

Irides brown, cere and legs yellow. Length 21 inches; wing 15; tail 8; bill at gape $1\frac{4}{10}$; tarsus $3\frac{2}{10}$.

Bill short, slightly bending from base; commissure very slightly festooned; legs feathered in front for 1 inch; a broad

series of scales in front; another behind, separated on either side by 3 rows of small irregularly hexagonal scales; 4—5 large scales at the extremity of each toe; external claw small; internal larger than the centre one, about equal to the hinder one; external digit (without claw) slightly longer than the internal.

Wings reaching nearly to the end of the tail, which is very slightly rounded; 3d, 4th and 5th quills longest and equal; 1st shorter than the 7th.

I shot a specimen of this *Buzzard*, seated on the ground near a small brook and swampy ground on the Neilgherries. It had eaten a lizard. It is somewhat allied in colouring to the *Buteo longipes*. From its plumage I conclude it to be an adult specimen.

21, ter.—*Buteo melanotis*—New species??—*B. albidus?*—*Black-eared Buzzard.*

Descr.—Head and neck above buff, the feather broadly barred with deep brown, and considerably lengthened, forming a large occipital crest, almost as large as in the *Circaetus undulatus*. Back and wing coverts dark brown, each feather edged with rufous. Tail hoary brown, with 3 distinct broad dark brown bars.

Quills brown, with darker bands, and the inner webs white for two thirds of their length, with brown bands. Quills and medial wing coverts, tipped white. Plumage beneath pale whity buff—the feathers of the breast darkest, and centred with brown. Thigh coverts transversely banded with pale brown. Quills and tail beneath hoary grey, with dark bands. Ear coverts and stripe beneath the eyes deep black. Cere and legs pale yellow; bill yellow at base with black tip.

Length 24 inches; wing 16; tail $10\frac{1}{2}$; tarsus $3\frac{8}{10}$; middle digit without claw $1\frac{7}{10}$; hind do. $\frac{9}{10}$; bill at gape $1\frac{7}{10}$. 5th

quill longest. 2d, 3d, and 4th quills nearly graduated; 1st considerably shorter, about equal to the 9th—3d and 6th nearly equal. Bill much bent; commissure almost straight. Tarsus reticulated, with a larger series of scales in front on the upper part of the tarsus only; 4 large scales on the extremities of the toes; tail rounded, 2 inches beyond the wings. This bird differs from the true *Buzzards* in several points, more especially in the structure of its tarsi which are reticulated nearly throughout. Its wings are short, and its bill more abruptly bent. Its feet are moderate and claws small, but considerably curved. Of its habits and food I know nothing. I was favoured by S. Ward, Esq. M. C. S. with the only skin of this bird I have yet seen. It was killed at the foot of the Neilgherries.

29, bis.—*Falco sub-buteo,* L.—The *Hobby.*

I obtained a single specimen of this *falcon* during the cold season in a grove of trees north of Jaulnah. I found its stomach crammed with dragon flies (*Libellulæ*). It was called *Doureylee* by one native falconer, and *Reygee* by another, who said it was only a cold weather visitant in the Peninsula, coming in and disappearing along with the *Bhyree* (*Falco peregrinus*).

42, bis.—*Bulaca Monticola*—New species?—*Neilgherry wood owl.*

Descr. Plumage above dark hair-brown, deepest on the head and neck; medial wing coverts, scapulars, tail and upper tail coverts brown, finely barred with white; face pale rufous brown; disk, mark round the eyes, and chin, lackish brown; throat and narrow line on the lower part of the disk white; lower surface of body rusty white with numerous narrow bars of pale brown; feathers of legs rusty with bars less distinct. Quills barred with dark and light brown; irides deep brown; bill whitish; claws reddish.

Length of male 20 inches, of female 22 inches. Of the latter the wing is 14; tail 9; tarsus 2½; inner claw largest—then the centre one; outer sub-equal to hinder claw; tarsus moderately stout, feathered nearly to the end of the toes—wing rounded; 5th quill longest; 4th nearly equal to it; conch rather small. Disk incomplete above, but strongly marked below.

I have procured this owl lately in the dense woods of the Neilgherries. It is quite nocturnal in its habits.

70, bis.—and 70, ter—Genus *Brachypus.*

I procured two species of *Bulbuls* in the Mysore district bordering the Neilgherries, which appeared to be undescribed, but unfortunately either lost or mislaid them before I had written a description of either. A coloured drawing of both however, was taken by a native painter in Mr. Elliot's service on my arrival on the Hills, and from these I now add a brief description. They were about 6½ or 7 inches in length; the white checked one rather the smallest of the two.

70, bis.—*Yellow-eared Bulbul.*—Above yellowish green, beneath yellow; ocular region black; a plume of soft loose feathers over the ear tipt with yellow.

70, ter.—*White-eared Bulbul*—Above light green, beneath greenish yellow; head, neck and breast dusky grey; ear spot white.

No. 85, bis.—*Turdus varius.*

From specimens I have lately seen and procured through the kindness of S. Ward, Esq., I am induced to think that the bird I procured in the Northern Division and placed as *T. varius* in the Catalogue, will prove another distinct species, probably the *T.* (*Oreocincla*) *parvirostris* of Gould, and that the specimens lately procured on the Neilgherries are those of the true *Tardus varius.* It is by no means a com-

mon bird; frequents thick woods, and has the usual habits of the *Thrush* kind; I add its dimensions for the sake of comparison.

Length 10¾ inches; wing 5 $\frac{2}{10}$; tail 3¾; tarsus 1 $\frac{2}{10}$; bill 1½ at gape.

No. 88, bis.—*Megalurus ? striatus.*—New species?

Descr.—Plumage above yellowish brown, each feather centred with deep brown; beneath dirty yellowish white; tail beneath dusky, centred black, and tipped with whitish; bill dusky above, yellowish beneath. Legs flesh coloured! irides deep reddish brown.

Length 7 inches; wing 3 $\frac{4}{10}$; tail 3½; bill at front ½ inch; at gape $\frac{7}{10}$; tarsus 1 $\frac{2}{10}$; mid-toe 1; hind toe $\frac{8}{10}$; bill with 5 strong rictal bristles; 1st quill short; 2d quill equal to 7th; 3d longest; 4th and 5th nearly equal to it.

This bird appears most nearly allied to the genus *Megalurus* of Swainson, but yet does not axactly tally with all the characters given in his Synopsis. Its colouring recalls that of the *Thimalia chatarœa,* for which at the first cursory glance I mistook it. I procured a single specimen latley on the Neilgherries. It was shot by a shikaree who said that he found it on bushy ground; its food appeared to have consisted solely of insects.

95, bis.—*Thimalia poioicephala*—New species?—*Small grey-headed Babbler.*

Descr.—Head and neck cinereous; back and rump greenish olive; wings and tail same colour, but darker; beneath dirty yellowish, lightest on chin and throat. Bill dusky yellowish; legs pale fleshy; irides white. Length 5½ inches; wing 2 $\frac{8}{10}$; tail 2½; tarsus $\frac{8}{10}$; bill at front $\frac{4}{10}$; at gape 6½ 10ths.

I procured a single specimen of this bird on the Coonoor Ghaut, in high forest jungle. It was alone, flying from branch to branch and had been feeding on small insects.

96.—bis.—*Thimalia platyura.*—New species?—*Broad-tailed Babbler.*

Descr.—Plumage above dark olive brown, beneath ochrey yellowish; bill yellow horny; legs fleshy yellow; irides yellowish brown; tail feathers obsoletely barred, very broad; 1st and 2d quills graduated; 4th longest; 3d and 5th equal.

Length $5\frac{1}{4}$ inches; wing $2\frac{1}{2}$; tail $2\frac{1}{2}$; tarsus $\frac{9}{10}$; bill at front $\frac{4}{10}$; at gape $\frac{6}{10}$; bill much compressed, plumage very lax.

I was at first inclined to take this little bird for a *Warbler,* but a review of all its characters has induced me for the present to place it among the *Themaliæ.* I procured a specimen in long reedy gress at Goodaloor at the foot of the Neilgherries. It took short flights, and endeavoured to conceal itself among the thick reeds. Its food consisted of insects.

109, bis.—*Phœnicura major.*—New species?—*Large Redstart.*

Descr.—Plumage dark slaty cinereous, except the belly, vent and under tail coverts, which are ochrey yellow; bill black; legs dirty reddish, irides hazel.

Length 7 inches; wing $3\frac{4}{10}$; tail $2\frac{7}{10}$; tarsus $1\frac{3}{10}$; bill at front $5\frac{1}{2}$ 10ths.

This large and stout *Phœnicura* is found frequenting under wood and low trees in the dense woods of the Neilgherries, and descending to the ground to feed. It is a rare bird.

109, ter. —*Phœnicura supersiliaris*—New species?—*White browed Redstart.*

Descr.—Plumage above dark indigo blue; eye streak white, lores and ears black; beneath bright rufous; under tail coverts white; bill dusky; legs pale fleshy. Irides dark brown.

Length nearly 6 inches; wing 3; tail 2; tarsus rather more than 1; bill at front $\frac{5}{10}$; at gape $\frac{7}{10}$.

I have only seen this pretty little *Redstart* very rarely in thick and tangled underwood on the Neilgherries. It has a single low clucking note, like that of some of the *Stonechats.* Its colours are very similar to those of *Musicapa bangarnas.*

No. 154, bis.—*Musicapa rubicola*—Swains?—*Robin Flycatcher.*

I lately procured on the Coonoor Ghaut of the Neilgherries, a *Flycatcher,* which, notwithstanding some slight differences, I am strongly inclined to consider as the '*Robin Flycatcher,*' described by Swainson in his beautiful volume on Flycatchers in the Naturalists' Library.

My bird has the head and neck of a greenish cinereous tinge, the back inclining to olive-brown, and the upper tail coverts and tail of a cinnamon brown hue; throat and breast orange; abdomen and under tail coverts white; bill black; legs pale whitish fleshy.

Length $6\frac{1}{4}$ inches; wing 3; tail $2\frac{4}{10}$; tarsus nearly $\frac{8}{10}$; bill at front rather more than $\frac{4}{10}$; at gape $\frac{8}{10}$. Irides hazel brown. I may remark that one or two of the feathers of the forehead are slightly tinged with pale blue.

173, bis.—*Spermestes.*—New species—variety of *S. Leuconota?*

I have lately procured a specimen of a small *Finch* which I think can hardly be a young state or variety of *S. leuconota* and I know not if it has been described.

Descr.—Head, neck and back brown; the shafts of the feathers light; upper tail coverts deep-brown; the feathers tipped with glistening yellow (as in *S. nisoria*); wings and tail dark brown; face, forehead, throat and breast deep

brown; abdomen and sides of a reddish fawn or salmon colour; under-tail coverts dark brown with light shafts.

Length 4½ inches; wing 2 $\frac{3}{10}$; tail 1 $\frac{7}{10}$; tarsus $\frac{6}{10}$.

No. 231, bis.—*Centropus Bengalensis,* figured in Brown's Illustrations.

On the authority of Mr. Elliot, I insert this *Cuckoo* as a Peninsular species, that gentleman having observed it in the Southern Mahratta Country.

236, bis.—*Cinnyris longirostris.*—New species?—*Long-billed Honey-Sucker.*

Descr.—Above olive-greenish with a tinge of grey on the forehead and head (the feathers of which parts are scaly), and the rump inclining to yellowish; chin and throat white, changing to bright yellow on the belly; wings and tail dusky brown, the former edged with green and the latter tipped with white; bill dusky; legs brownish cinereous. Irides brown.

Length 5 inches; wing 2½; tail 1½; tarsus $\frac{6}{10}$; mid-toe ½ inch; hind do. ½; bill at front 1 $\frac{4}{10}$.

Judging from analogy this may be the female of some species. I found a single specimen of it in the Mysore district, bordering the Neilgherries.

257, bis.—*Chætura.*—*Spiny tailed Swift.*

Descr.—Head and neck above, wings, tail, and tail coverts glossy green black; back light-brown, chin whitish, vent and under-tail coverts pure white; rest of plumage beneath glossy dark-brown. Spot in front of the eyes white; bill black; legs livid red. Irides deep brown.

Length to end of tail 9¼ inches; wings beyond 2; from flexure 7 $\frac{6}{10}$; tail 2½; tarsus ½; bill at gape 1 inch.

I have seen this very curious *Swift* in vast numbers at the foot of the Neilgherries, both at Metapolliam and Goodaloor. It flies with amazing velocity. As I think it is most likely described, I have not at present ventured to give it a distinct appellation.

260, bis.—*Hirundo urbica,* L. English *Martin.*

I have found this well known European bird, in small numbers, on the South side of the Neilgherries, frequenting a rather lower range of the hills covered with cultivation.

261, bis.—*Hirundo domicola.*—New species ?—*Bungalow Swallow* of the Neilgherries.

Descr.—Forehead, chin, throat and upper part of breast, white deep rufous; plumage above glossy blue black; beneath dusky cenerious; wings and tail dusky black; the latter with a white spot near the tip on all but the two centre feathers. Under tail coverts blackish, edged white. Bill and legs black.

Length $4\frac{3}{4}$ inches; wing $4\frac{2}{10}$; tail (very slightly forked) 2; tarsus $3\frac{1}{2}$ 10ths; bill at front $2\frac{1}{2}$ 10ths; at gape $\frac{5}{10}$; wing $\frac{4}{10}$ beyond tail.

This curiously plumaged little *Swallow* is by no means rare on the Neilgherries, and builds in retired or deserted bungalows, out-houses, &c., making a small mud nest, quite open at the top, and profusely lined with feathers.

262.—*Hirundo unicolor*—On examining fresh specimens of this bird, I find it is a species of *Cypselus* or *Swift,* not a *Hirundo.*

263, bis.—*Hirundo inornata.*—New species ?

Descr.—Above pale ashy brown, darkest on the tail and quills; throat and breast rufous white; abdomen rufous ash colour; under tail coverts ashy brown. A large white spot

on the inner web of all the tail feathers, except the two outer and two centre feathers. Bill black ; legs reddish.

Length to end of tail 5 $\frac{7}{10}$; wings beyond 1 $\frac{3}{10}$; from flexure 5 $\frac{2}{10}$; tail 2 $\frac{4}{10}$; tarsus $\frac{4}{10}$. Tail nearly square.

I observed this plain coloured *Swallow* at one time in great numbers at Ootacamund, and occasionally in small parties on different parts of the hills, but only in the cold weather.

330, bis.—*Rallus porzana.*

A single specimen of what, from the descriptions I possess, I take to be the *Rallus porzana* of Europe, was procured in a swamp on the Neilgherries in the month of April.

I add its dimensions :—Length 9 inches ; wing 4½ ; tail 2 ; tarsus 1 $\frac{4}{10}$; mid-toe 1 $\frac{6}{10}$; hind-toe ½ ; bill at front $\frac{7}{10}$ irides brown. Bill yellowish green at the base, and beneath tinged with red ; tip dusky ; legs bright green ; weight 3¼ oz.

VII.—*Chantrey's Statue of Sir Thomas Munro.*

To the Editor of the Madras Journal of Literature and Science.

Sir,—It has been suggested to me that a few particulars respecting the Statue of Sir Thomas Munro which has just been erected, would be well received by your readers, and though I have but little to communicate I will trust to the local interest of the subject as sufficient apology for thus intruding myself on your pages.—The first order for the work was given almost immediately after the death of Sir Thomas Munro ; but owing to the numerous engagements which the Sculptor had on hand, it was not commenced till nearly two

years after that period, from which time till its embarkation in April 1838, it may be said to have occupied the chief part of his time and attention. The great object of Sir Francis Chantrey in all works of this nature is to combine simplicity in the outline and drapery with dignity in the attitude and expression: it is only necessary to look at the figure recently erected on the island to be satisfied as to how completely he has here succeeded in attaining this happy union.

The horse may be looked upon rather as the Artist's beau ideal of the animal than as the representation of any particular species, although no doubt the Arab blood will be found to prevail in its composition, and fortunately so when we consider the country where it was to find its final resting place. The pains which Sir Francis took with this part of his task are almost incredible; the whole of the royal stud—then in all its glory—was submitted individually to his inspection—he consulted the best veterinarians—and finally kept it in the model for a space of nearly four years, in order that he might be able to avail himself of any improvements which time or reflection might suggest. The preserving of the clay for so long a period in a proper state of moisture was alone a work of no ordinary difficulty and anxiety, for unless the greatest care be taken, it is sure to bake dry in summer and freeze hard in winter, either of which by distorting the form will in one day ruin the labour of months. When at last however he was completely satisfied, a mould was taken in plaster of Paris, and a cast in the same material took the place of the enormous mass of clay which was immediately broken up to be moulded into other forms.

The horse being thus fixed in somewhat more permanent materials, Chantrey then proceeded to the figure of the rider, which had to be gathered from the most incongruous sources—the chief of which was the admirable portrait by Sir Martin Ar-

-cher Shee; but when we reflect that a painting gives only one point of sight and that a piece of sculpture has to be viewed in every direction, it forms of itself no mean tribute to the Artist's skill, that in a place when every body is familiar with Munro's face and form, not one objection has been raised to the fidelity with which he has caught up the likeness of a man whom he never even saw. The drapery is a happy compound of the ancient and modern, and though perhaps it would scarcely pass muster with the fastidious authorities in the Adjutant General's Office, it is still sufficiently military to satisfy ordinary persons and at the same time not offend the taste of the lovers of the antique, whose prejudices founded as they are in nature must always find favor with a true Artist.

When the whole work was cast in plaster of Paris, the next step was to form moulds of such a material, as would be at once sufficiently fine to preserve the delicacy of the workmanship; and yet strong enough to bear the heat of melted bronze.—This object is effected by a mixture of brick-dust and plaster in nearly equal proportions, and ten or twelve inches thick. Inside of this again, in order to regulate the thickness of the metal, a *core* was constructed of the same materials and about half an inch smaller in every proportion than the true size of the figure. These moulds when completed were placed in immense ovens and slowly baked dry, for had the slightest moisture remained when the metal was poured in, the mould would have been burst to pieces. In order to ascertain this important point with certainty a small hole was bored into the thickest part of the mould, and some grains of the material extracted, which were immediately placed in a pair of Dr. Wollaston's scales and their weight ascertained with the utmost nicety—they were then exposed to considerable heat and once more put into the scales, after which if their weight was less than on the first trial, it was evident that the mould had still some moisture remaining—

the experiment was repeated till all was thoroughly dry. The mould of the horse was divided into five and that of the rider into three pieces. A pit close to the furnace was then dug sufficiently deep to bury each of these parts—one was placed in it and all around was rammed tight with fine sand leaving two or three runners or channels for the metal to pass through—the bronze entered from below the mould and gradually ascended to the top, had it at once been poured in from above the bronze would have been honey-combed and full of bubbles when allowed to cool. After some time the sand was dug away, and the mould having been broken up, the metal was brought out black and rough—a few days hard rubbing with files and sand paper soon removed this outer coating and left it bright and shining, which appearance in its turn was deadened into its present hue by an application of muriatic acid and potash. The various pieces were joined together in the following manner—half an inch was sawed off the edges of the parts to be connected, and the interior was filled with sand; a small crucible of melted bronze was then prepared and poured along the interval—the heat of this metal was sufficient to make the rims of the solid part become liquid, and when the bronze became cool, the whole was found burned into a solid mass. Though as may be inferred from the above hasty sketch the process is liable to many accidents, I am not aware that more than two failures were made in the whole number of meltings. The sword, the bridle, and the lower part of the tail were also formed in separate castings.

C.

Madras 1840.

VIII.—*On Rain Guages and Registry of River Freshes.*

To the Editors of the Madras Journal of Literature and Science.

Dear Sirs,—I beg the favour of your inserting the accompanying Memoranda in your forthcoming number, not so much on account of their own value as because they may serve to attract attention to a subject which, I think all will agree, is of much interest and importance. The table A of the heights to which some of the chief rivers of the Presidency have risen at different dates, although incomplete, is, I believe, accurate as far as it goes. In future numbers, I hope to be able to supply information of the same kind in which there will be fewer deficiencies. The drawing and Estimate for a cistern rain guage are intended to shew how cheaply and easily one may be constructed of brick and mortar, and of a form so simple that observations of the depth of rain may be made and accurately registered by unscientific natives.—No doubt, most of your readers are acquainted with more perfect kinds of pluviometer, but I shall be excused for occupying this space among your pages with the description of so rude a contrivance, should my doing so be the means of inducing any of them to procure and publish information which but for some hint of the kind, we could hardly expect to obtain.

We are all in the habit of talking and hearing much about the N. E. and S. W. Monsoons, and we have general ideas on the subject of their duration and violence and of the extent of country over which each has influence, but their phenomena are by no means thoroughly understood. We can neither distinctly and correctly trace the line which separates the tract watered by the one from that which chiefly benefits by the other, nor can we yet shew by what gradations the quantity of rain which at Bombay averages 84 inches per annum is diminished as we cross the Peninsula to 50 inches,

the average at Madras. Accounts of these remarkable periodical changes have hitherto been confined chiefly to the direction of the winds along the coast and in the surrounding seas and relate to navigation and hydrography; while particulars of the quantity of rain that falls and of the effects of the Monsoons on the agriculture and climate of the land are few and scattered. In return for the instruction and amusement that we derive from their industrious observations and notices, our friends in Europe have a right to expect to learn from us something definite regarding the wonders of these climates, which we alone have opportunities of seeing, and ought to notice and record for their use as well as for our own. Considering how eminently the European community in India is an educated and scientific one, it is reasonable to hope that our knowledge of subjects interesting to every traveller may be increased materially when it has been shown that much information may be procured at small expense and with very little trouble.

Many returns of great official value now contain allusions to the moderation or excess of falls of rain, to high and low freshes of rivers and their effect upon cultivation and revenue, and it is a question whether it might not be worth while for the State to go to some expense* in order that instead of the

* The first and total expense to Government, if four rain guages were to be built in each District would be 4 × 19 × 14 = Rupees 1064: not much when it is considered how large sums are laid out in promoting enquiries of not greater scientific value and of far less apparent practical utility. The rain guages might be established in the chief towns of the Districts, and the principal Kusbahs of Talooks, where the daily recording of their indications would not occupy a writer five minutes. The observations, if made with regularity, would serve as a check one upon another and no important error could occur if the pluviometer at the principal station were under the immediate charge, and the others under the general superintendence of the Zillah Surgeon.

The cistern rain guage might be made ornamental as well as useful. On one of its vertical faces, a sundial might be figured, on another the standard English

loose, inaccurate accounts† on which the farmers of such reports are now forced to rely, they might procure true records of the seasons, compare them one with another, and judge with confidence the results of administrative measures. Without such records, it may often occur that the good and evil which ought to be attributed to management are laid to the charge of the heavens, the faults of bad assessment and collection washed out by the inundations of a river, oppressive measures paired off with dry seasons, or the merits of a promising new work of irrigation evaporated by the cloudless rays of‡ a July sun or the hot breath of a September land wind.

How little do we now know about the famines which but a few years ago were productive of so much distress in the Northern Circars and elsewhere in this Presidency!! We know that multitudes of men and cattle perished from starvation and thirst; that where in 1830 there were happy people and thriving villages, there are now bare ruined walls, jungle and solitude; that the revenues of this Presidency then received a shock from which several years of good seasons and peaceful Government have not sufficed to recover them:—and this is pretty nearly all that we do know. Is it not possible, or even probable that by more careful observations

measures might be inscribed, on another the distances from neighbouring towns &c. &c. £ 100 laid out in rendering familiar to the people English notions of time and measurement would not be a misappropriation of the funds allotted for educational purposes.

† The natives in this part of India reckon the qauntity of fallen rain in what they call "*puddum*" which signifies the number of finger's breadths to which the water is supposed to have penetrated the earth. They do not take into consideration whether the soil be sandy or clayey, absorbent or retentive of moisture. Tanks are reported to be *half full* or *quarter full* but though accumulations of mud in the bed may have filled up a third or more of the space which formerly contained water, the same time honoured mark continues to point out the *quarter* or *half* tank.

‡ See in the Madras Almanacs what weather *ought* to prevail in July and September.

continued from year to year, we may discover some premonitory indications of these dreadful droughts, and learn in some degree to avert the calamities that attend them? and, if there be but a chance of saving only one hundred lives by means of a trifling degree of fore knowledge, surely, it is worth while to bestow some labour and money in the endeavour to obtain it.

So long as the weather is described merely as being *very hot*, or the rains as *late*, *unseasonable* or *scanty*, we cannot expect much attention to be paid or much knowledge gained. Every hot day seems one of the hottest we ever endured, every heavy pour of rain, especially if we wish to go abroad appears the veriest deluge which ever promised a ducking. Probably in no case is our judgment so apt to be deceived as in comparison of seasons, to estimate which we trust chiefly to the recollection of our past feelings. It would be very different if we had more precise guides. Imagine, for example, that in the year before the famine, our records shewed that only 3 inches rain fell in November, and that the July freshes rose to a height of 12 feet, and that in 1845 the freshes should rise only to 10 feet and the November rains amount to only 2 inches, should we not then begin to anticipate mischief? The merchants would expect high prices in the Districts menaced, grain would be exported to them, and much of the evil of famine would be met by timely supplies.

But I have said enough on a subject which any of your traders can illustrate and on which there can hardly be a diversity of opinion. I will only add, with your permission that until the duty is entrusted to more able hands, I shall be glad to aid in condensing and arranging for publication any papers that this notice may elicit and that I am,

Dear Sirs,

Yours very truly,

S. Best.

Estimate for a Rain Guage.

	ft.	ins.		ft.	ins.		ft.	ins.	c. ft.	ins.
Outer wall below, ...	14	6	by	1	1½	by	3	0	.. 49	0
Do. do. above, ...	16	0	by	0	9	by	1	0	12	0
Inner do, ...	2	6	by	0	9	by	3	0	.. 5	7½
Floors of cisterns,..........	4	0	by	2	6	by	0	4½	 3	9
								Total Brick work....	70 „	4½

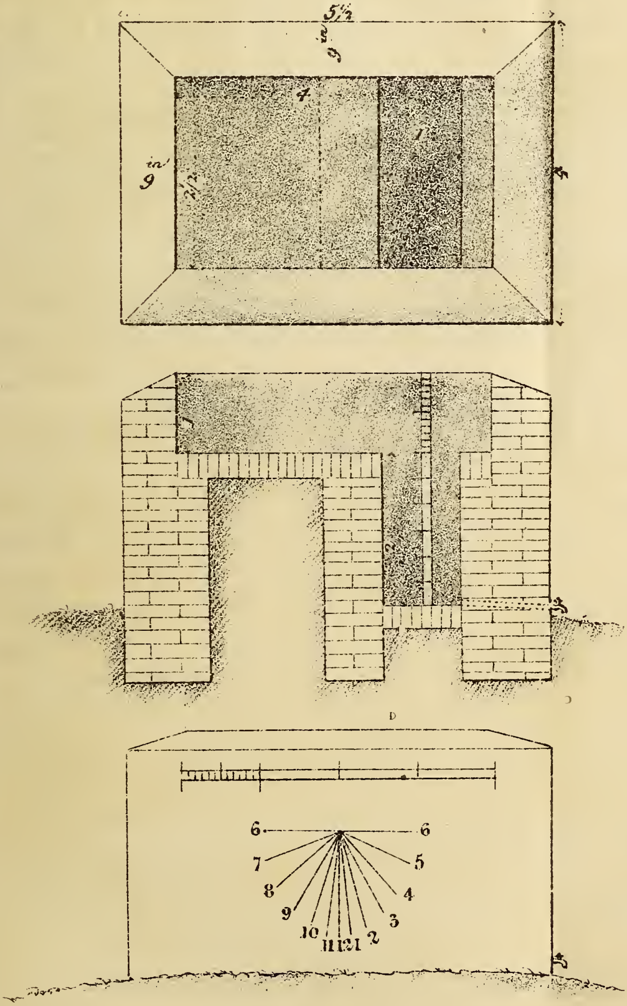
	ft.	ins.		ft.	ins.	sq. ft.	
Plastering	19	0	by	4	0	76	Total 107 Sq. ft.
	7	0	by	3	0	 21	
	4	0	by	2	6	10	

	Rs.	A.	P.
70 4½ Cc. ft. Brick work at 2 annas........................	8	12	9
107 Sq. ft. Plastering at 2½ Rs. per Sq.	2	11	0
Scales and Sundries........	2	8	3
Total Rs. ..	14	0	0

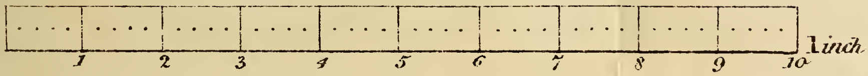
Rules for erecting and recording the Rain guages, intended for translation into the native languages.

The cistern should be built in a spot from which every building and large tree is distant at least 60 feet. It must not be placed on a hill or mound nor yet in a hollow, but on ground of the general level. It should be near to a guard or at any rate in some spot where it will not be mischievously injured, and where it will be convenient for the inspection of the person whose duty it is to make the observations. The cistern should be well built of brick in chunam (allowing for the thickness of plaster), or of cut stone if it can be done within the Estimate. The walls must be perfectly upright and there should be no error in the dimensions. The scales should be fixed in the masonry. They may be of wood or marked in the plaster, or cut in stone or metal, but of whatever material, they must be exact.* No wall more than 2 feet high is to be built around the cistern to protect it, but a ditch or a hedge of thorns, leaving space for one person to go and look at the guage will be useful. The observations should be taken every day and as nearly as may be at the same hour in the morning.

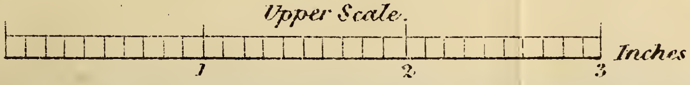
Plan, Section and Elevation of a Cistern Rain Gauge.



Lower Scale for Well.



Upper Scale.



BRITISH MUSEUM

In the small cistern or well, each large division is 4 inches in length, but denotes only one inch of rain. The smaller divisions, each $\frac{4}{10}$ of an inch, shew tenths of an inch of rain, and every one of the smallest divisions, $\frac{4}{50}$ of an inch, shews two hundredths of an inch of rain. The small cistern will hold six inches of rain, which is the greatest quantity that is ever likely to fall in 24 hours; but lest there should be any neglect, the upper part of the cistern is also marked and the whole will shew 18 inches of rain. The cistern ought never to be covered. If dirt collect in it, it must be swept and washed out. The water must be let off and the orifice closed as soon as the depth is entered in the register, which it will be convenient to have made in the accompanying form.

FORM.*

*Rain Guage at*____________________184 .

Months.	Date.	In English figures. Inches	tenths.	parts.	In Native characters. inches.	tenths.	parts.	Name of the Observer.
Total of the Month.								
Daily average.								

* Any vessel that is of the same size from top to bottom will do for a rain guage. The depth may be accurately measured at once, or if the number of square inches in the top surface be ascertained, then if the number of cubic inches of rain that falls in it be divided by these square inches, the quotient will be the depth of rain fallen in inches.

The number of cubic inches may be found by weighing the water, allowing 253¼ grains for each cubic inch. A fluid ounce is 1 Cubic inch and 89¼ hundredths, very nearly 1 Cubic inch and nine tenths.

* Blank Registers of this form printed on writing paper are procurable at the Christian Knowledge Society Press, price 9 as per annual sheet.

Table A of the heights of water in the

	Kistna River at Seetanuggrum.									Goda Raja	
	Maxm.	Mean	Minm.	Maxm.	Mean	Minm.	Maxm.	Mean	Minm.	Maxm.	Mean
	ft. ins.	ft. ins. 1841	ft. ins.	ft. ins.	ft. ins. 1842	ft. ins.	ft. ins.	ft. ins. 1843	ft. ins.	ft. ins.	ft. i 1843
June				19. 0	11. 1	9. 0					
July	32. 9	24. 5	13, 8	30. 3	19. 8	14· 0	28. 10	21. 11	14. 0	28. 6	14.
August	33. 9	25. 11	20. 3	32. 0	25. 2	16. 3	28. 6	22. 5	16. 3	29. 6	13. 8
September	25. 0	20. 3	16. 0	32. 9	23. 10	18. 0	29. 3	20. 11	15. 6	31. 0	18. 11
October	19. 3	14. 3	12. 0	22. 6	14. 9	11. 9	29. 0	21. 10	14. 3		
November	21. 6	16. 5	9. 9	15. 6	12. 8	10. 0	14. 0	11, 0	9. 8		
December				10. 9	8. 11	7. 9	10. 2	8. 5	8. 4		
		1842			1843			1844			1841
January	10. 6	7. 7	5. 3	7. 9	7. 4	6, 7	8. 4	7. 7	7. 3		
February	9. 3	7. 4	6. 0	7. 3	6. 10	6. 3	7. 4	7. 2	6. 6		
March				10. 0	7. 3	6. 3	6. 5	6. 1	5. 10		
April				7. 6	6. 3	5. 7	5. 9	5. 4	5. 1		
May				24. 0	10. 4	6. 6	7. 4	5. 7	4. 11		

	Agunda Cauvery at Moosery.			Colleroon Upper Annicut or Dam. South wing wall of the So								
	Max.	Mean.	Min.	Max.	Mean.	Min.	Max.	Mean.	Min.	Max.	Mean.	Min.
	ft. ins.	ft. ins. 1843.	ft. ins.	ft. ins.	ft. ins. 1840.	ft. ins.	ft. ins.	ft. ins. 1841.	ft ins.	ft. ins.	ft. ins. 1842.	ft. ins.
e........	8. 2	4. 2	2. 0	1. 4	0. 11	0. 3	0. 11	0. 10	0. 10	3. 0	1. 8	0. 6
'........	8. 10	6. 2	4. 4	5. 6	3. 2	1. 7	5. 5	3. 9	0. 6	4. 3	2. 3	0. 4
ust.......	7. 0	4. 11	3. 9	2. 9	1. 6	0. 5	3. 6	1. 7	0. 1	3. 8	2. 2	0. 2
ember...	9. 0	5. 6	4. 0				3. 10	1. 5	0. 1	3. 8	1. 5	0. 2
ober.....	7. 6	5. 11	4. 0	1. 4	0. 9½	0· 4	4. 5	1. 11	0. 4	1. 11	0. 10	0. 3
ember...	4. 6	2. 11	1. 10	1. 7	1. 2	0. 9	3. 7	2. 3	0. 5	2. 3	1. 4	0. 2

No returns for th

Rivers of the Madras Presidency.

very River at mundry.		Pennaur River at Nellore.			Toombuddra River.				Tambrapoorny River at Palamcotta.		
					At Kamply.		At Rampoor.				
Mean	Minm.	Maxm.	Mean	Minm.					Maxm.	Mean.	Minm.
ft. ins.	*ft. ins.*	*ft. ins.*	*ft. ins.*	*ft. ins.*		*ft. ins.*		*ft. ins.*	*ft. ins.*	*ft. ins.*	*ft. ins.*
1843			1843				1843			1843	
		6. 9	3. 9	2. 3	19th	6. 0	26th	10 10½	8. 0	3. 11	2. 6
14. 6	0. 8	3. 9	1. 3	0. 9	27th	10. 6	26th	9. 0	6. 6	2. 10	1. 0
13. 8	8. 4	3. 3	1. 1½	0. 9	28th	9. 0	30th	7. 6	1. 6	1. 5	0. 10
18. 11	8. 10	10. 6	5. 6	2. 3	27th	10. 6	27th	15. 9	4. 6	2. 8	2. 6
		15. 0	7. 1	3. 9					7. 0	1. 8	0. 9
		6. 0	2. 8	1. 6	30th	3. 0	30th	3. 9	8. 0	3. 1	1. 0
		13. 6	5. 2	1. 1¼					7. 6	3. 7	0. 6
1844			1844							1844	
		9. 9	3. 2	1. 6					5, 0	2. 5	1. 3
		3. 0	1. 7	1. 1½					1. 3	1. 0	0. 9
		0. 0	0. 0	0. 0					1. 0	0. 9	0. 9
		0. 0	0. 0	0. 0					0. 9	0. 7	0. 6
		3. 9	0. 6	0. 0					1. 6	0. 7½	0. 6

	f the Southern portion.			Veeranum Tank, above the South Calingulah or Waste weir.			Grand Annicut or Waste weir.			Colleroon Lower Dam. North branch.		
Min.	Max.	Mean.	Min.	Max.	Mean.	Min.	Max.	Mean.	Min.	Max.	Mean.	Min.
ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins.	ft. ins
		1843.			1843.			1843.				
0. 6												
0. 4				0. 6	0· 2¾	0. ½						
0. 2				0. 2	0. 1¼	0. ½						
0. 2				0. 10	0. 4½	0. ¼						
0. 3	1. 11	0. 10½	0. 1	0. 11	0. 6½	0. 4½	2. 5	1. 5⅓	0. 4	2. 11	1. 4	0. 7
0. 2	0. 0	0. 0	0. 0							0. 10	0. 4	0. 1

other months of the year.

IX.—*Effects of the Famine of* 1833.

A correct idea of the nature of the famine, which, with the exception of Tanjore and some other well irrigated tracts, was felt throughout the Presidency may be formed from the accompanying particulars, derived from good authority and referring to the Guntoor District.

Census.

	Population.	Bullocks and He Buffaloes.	Milch Cattle.	Sheep and Goats.
1830-01 1831-32	5,09,365 5,12,317	1,33,684 1,32,763	2,16,755 2,13,140	4,80,940 4,95,158
1832-33 1833-34	3,57,038 2,55,511	64,122 58,503	80,204 53,800	2,58,818 1,69,464
1842-43	3,44,729	1,10,744	1,91,067	5,12,155
Decrease between 31-32 and 33-34	2,56,806	74,260	1,59,340	3,25,694
Increase between 33-34 and 42-43	89,218	52,241	1,37,267	3,42,691
Average annual increase.	9,913	5,804	15,252	38,077
Difference of 31-32 42-43	1,67,588 less	22,019 less	22,073 less	16,997 more

Gross Revenue Collections.				Rain at Masulipatam.		
	Rupees	Less than in 31-32	Average loss.	June to January.	Jany. to June.	Total.
1830-31	18,42,469					
1831-32	18,31,451					
1832-33	9,54,960	8,76,491				
1833-34	13,63,056	4,68,395				
1834-35	8,40,905	9,90,546	7,14,644			
1835-36	12,55,157	5,76,294			5-53	
1836-37	11,49,958	6,81,493		23-88	6-84	30-72
1837-38	12,19,253	6,15,198		31-75	3-01	34-76
1838-39	13,29,343	5,02,108		9-95	11-16	21-11
1839-40	14,24,267	4,07,184		24-60	7-38	31-98
1840-41	14,35,338	3,96,113		18-17	11-38	29-55
1841-42	13,38,120	4,93,331	4,99,609	27-83	5-25	33-08
1842-43	12,47,731	5,83,720		33-29	7-92	41-21
Total loss of Revenue		65,90,873				

These tables give the actual loss of population, agricultural stock and revenue, and the rate at which recovery from these losses has taken place. I have added three columns shewing fall of rain at Masulipatam, which I have obtained through the kindness of Mr. Alexander, the Master Attendant there, a gentleman whose long experience and habits of observation render him an excellent authority in all matters connected with the state of the country in which he has dwelt so many years. Among the deductions that may be made immediately from these records, are, that the revenue levied in Guntoor in 1831 was 3 Rupees 9 $\frac{1}{6}$ Annas per man: in 1842 it is 3 Rupees $9\frac{1}{12}$ Annas. The number of cattle to each 100 of the population in 1831 was 67 bullocks and cows and 96 sheep and goats. In 1842, it is 87 bullocks and cows, and 145 sheep and goats. The number of milch cattle has trebled between 1833 and 1842 or in 9 years. The increase in the number of bullocks is not so great, but this is to be accounted for by the exportation for sale;—Guntoor being famous for its horned cattle. The number of sheep and goats in the same period of nine years has also trebled itself. But the human population has increased only by 40 per cent, and of

this increase, no doubt, a very large proportion consists of unfortunates, who emigrated during the *famine and fever*-years, and who have since returned to their homes. Among a people so little migratory as the population of a rural district, there is still a deficit of no less than one hundred and sixty seven thousand souls, and we are led to the inevitable conclusion that at least *one hundred and fifty thousand* perished through starvation and disease !*

* This is not an ordinary statistical fact—this is no record of so many millions of yards of cloth exported and so much sugar imported, no detail of so many people clothed and so many palates indulged. Here we read of a body of human beings much larger in number than the whole armies of India, not marching with the prospect of glory, promotion and prize money, but leaving their homes, wandering into strange lands with no excitement but the cravings of hunger and the agonies of thirst. Of these miserable pilgrims, a mass equal to all the Bengal and Madras Armies put together; a number whose corpses laid side by side would closely line both sides of a road 20 miles in length; three times as many as all the British soldiers killed in the Peninsula war; men, women, and children ten times more than the victims of Cabul, died not among shouts and cheering by the quick blow of bullet or bayonet, not in the course of a few nights, frozen to the sleep that ends in death, but by lingering illness and gnawing pangs prolonged for days and weeks.

It is distressing but it may be useful to dwell upon the horrors of these calamitous seasons. We are apt not sufficiently to consider in reading of 150,000 people killed by famine, how much individual wretchedness is indicated by those six digits. We shrink from the six hundred tales of broken up village communities, the uncultivated lands, the uncelebrated feast, the fierce contest at the well, the thronged burning ground, the unburied dead. We like not to contemplate the spectacle presented in thousands and tens of thousands of families, the herdsman with his uncomplaining cattle dying around him, stripping the coarse thatch from his roof in the vain hope of sustaining the lives which for years have been the grateful objects of his care, the sheep burnt to death with the withered grass, the hungry children and their starving parents, the famished mother unable to moisten the parched throat of her dying infant, or the hard struggle between the strong ties of kindred and the stronger instinct of self-preservation.

Let it be remembered that the famine of 1833 was by no means confined to the Guntoor District. Many must have a lively recollection of its disastrous effects in other parts of the Presidency, as well as of the multitudes that came in search of food to Madras itself, where some measure of relief was afforded them.

The sum of the loss of revenue up to 1842 is nearly 66 lacs of Rupees. At the rate of progress hitherto made, it is not to be expected that the District will pay what it did in 1831 for 15 years to come, and the difference during this period will average 3 lacs per annum, and will amount to 45 lacs more. The past and prospective loss in the value of produce, the share of the cultivators and people, cannot be estimated at less than 80 lacs. The value of the cattle that perished was more than 20 lacs, and the loss by the decrease in the exportation of bullocks may be 10 lacs more. On the whole it appears that, altogether independent of the misery that would have been so averted if any human means could have prevented the famine, it would have been worth while to spend *two hundred and twenty one lacs* of Rupees in doing so. I will not pretend to decide how much it is worth while to lay out in attempting to prevent the recurrence of such misfortune. But that a great deal may be done for a sum comparatively insignificant is not a matter of doubt. Let us pray with the people of those famished Districts that before long it may be matter of history.

The Guntoor District is from North to South about 80 miles in extreme length and E. to W. about 116 miles. Its area is about 4700 square miles, and with a population of five lacs there would be about 106 souls to a square mile, which is a little more than the average of the Presidency. On a rough estimate, we may take one-fourth of the country as occupied by hill and jungle, one-fourth by sand and barren ground. Three-eighths are fertile cotton soil, wanting only rain and labour to produce enormous crops of dry grains, especially *cholum* or *jonna* (holcus sorghum.) The remaining

Greater than the charity of relieving will be the charity of preventing, and far more effectual. What the best means of prevention are it is not easy to determine, but it is useless to waste time in discussion—wiser by far to resort at once to such means as are obvious,—and when better plans are suggested to adopt them also.

eighth is alluvial soil of the best kind, which with abundance of water, population and cattle is capable of yielding crops of rice far more plentiful than are to be met in the best parts of Tanjore.*

The Kistna River is the Northern boundary of the District. Its bed is all but dry during the months of March, April and May, but from June to January the freshes vary, the extreme depth being about 35 feet at Bazwarrah and Seetanuggrum, where it emerges from the hills. Its width is there 1160 yards and its velocity not less than 5 miles an hour, so that the quantity of water it discharges *in one hour* is $1\frac{1}{3}$ times the whole *annual* discharge of the Clyde at Glasgow. Unfortunately, but little can be rendered available for irrigation.†

The river's surface at flood falls about $11\frac{1}{2}$ inches per mile between Seetanuggrum and the sea, a distance in its course of $57\frac{1}{2}$ miles. In the dry season, bars of sand prevent the entrance of vessels, but in the freshes large boats drawing 8

* I cannot vouch for the correctness of these divisions but I believe they are not very far from the truth.—If we wait for absolute exactitude, we shall never write at all. I shall b^ happy to have my errors corrected. The Officers who surveyed our provinces drew up statistical reports explanatory of their surveys, in which such particulars as I have given loosely are stated from measurement. These reports unfortunately are not published.

† When the Godavery has shrunk within its dry season limits, along the banks may be seen numerous bullocks employed in raising water for irrigation from the bed, a height of about 20 feet. Nothing of the kind is common in the parts of Guntoor which border the Kistna. People who seldom leave their own villages to go further than the Kutcherry, unless when driven by famine are slow to learn the improved modes of cultivation followed even in neighbouring Districts. There seems no other reason why the same plan should not be common in Guntoor, provided always increased rates of taxation would not interfere with the husbandman's profits.

North of the Kistna, convenient rafts for the passage of small nullahs are made out of two hollowed palmyras and are in common use along the coast road and elsewhere. Every bearer in Madras knows what a *sungady* is, but not one is to be seen from Ongole to Cape Comorin, though palmyras are abundant, rafts are much required, and they might be made as easily in the South as in the North.

or 9 feet water pass up above Condapilly. The depth of the mouth may then be considered about 12 feet giving a fall of 9½ inches per mile for the bed of the river, the country through which it flows having a fall of about 18½ inches per mile in a direct line from Seetanuggrum to the sea at Nizampatam.

In the highest freshes, the Kistna rises to the level of the country on its banks and occasionally it overflows; but the floods, which (though they used to damage the dry grain crops) were of advantage in producing large quantities of inferior rice throughout the tract over which they extended, by the joint operation of natural causes and artificial embankments, have of late years become much less frequent. An attempt has been made to restore this source of fertility by excavating a channel which, branching from the Kistna at Seetanuggrum, strikes out on the low ground about 7 miles to the South and conveys water from the river whenever it rises within 15 feet of the bank.

The width of this channel averages 15 yards, but it might if necessary be increased to 30 or 40 yards. Its cost is about 30,000 Rupees, and this sum, there is good reason to expect, will in a very few years be repaid by the advantages it will afford. But before *full* benefit can be derived from it, it is necessary that several large tanks nearer to the coast be extended and improved, and fitted to reserve the water remaining after the channel has irrigated the country which borders it. Otherwise, this surplus will run into the sea and serve no other purpose than, perhaps, enlarging and deepening the small harbour of Nizamapatam. Laid out in improving the tanks and in providing for their being filled with water from the Kistna, two lacs of Rupees would suffice to secure the full cultivation of about one-third the rice land of Guntoor in all years in which the Kistna freshes averaged 22 feet on the register at Seetanuggrum during 60 days in June, July and

August, and the rain during September, October and November was not less than 10 inches.

We have yet to learn how often such seasons occur.

The remaining two-thirds of the rich alluvial soils of Guntoor are more immediately dependant upon local rains, and of the land suited to rice cultivation there is a large portion which cannot be so employed, its locality not being adapted to the construction of tanks.

There are said to be 5536 tanks in the Guntoor District; 3504 in repair and 2032 out of repair, but of these it would be found that the greater part are very small,—*ponds* for cattle and not *tanks* for irrigation. Of the tanks for irrigation hardly one can be said to be in perfect repair, while of those that are out of repair, perhaps not one in three is capable of useful repair and not one in ten worth the expense of repairing. Some advantage would be derived from putting the best of the tanks into proper order, and here and there constructing new ones, but tanks which are filled by local rains and by the small nullahs and streams which traverse short distances cannot supply irrigation in seasons of drought.

The want of water even in ordinary seasons in some parts of the Guntoor District is very great, and there is too much reason for fearing that there are tracts of some magnitude, where it is all but impossible by any means to obtain in seasons such as 1832-33, sufficient supplies of that first necessary of life.

In the town of Guntoor itself, where the wells are deep and numerous and some of them really magnificent works, (especially one dug out by the convicts under the orders of the justly lamented Mr. Newberry) there is almost annually great scarcity, the water that oozes into wells cut deep in the granite not being enough for the population, and many springs, tolerably abundant before 1832 having since then failed. At

some future date, it may be necessary to abandon Guntoor and approach nearer to the Kistna. The place would be ill suited now for a cavalry station, which it was in days of old.

The number of wells in the District is stated at 8948, of which 6873 are said to be in repair, and 2075 out of repair. Of the latter, a considerable proportion have probably been dug in ill chosen sites and have been abandoned in consequence. Others have been left incomplete for want of funds to finish them. Generally, it would be found that the wells are of small depth, that they penetrate only the softer kind of rock and gravel, and that, when granite was arrived at, the difficulty and expense of piercing it brought the work to a close. There is no ground to hope, nor, indeed, is it fair to expect that the impoverished ryots will now do what was beyond their strength in the days of their prosperity;—yet it seems reasonable to suppose that supplies of water for irrigation, domestic purposes and for cattle might become pretty abundant, if the wells were generally deepened and repaired under judicious arrangements. The only question is, "Where is the money to come from?"

Not that a large sum would be required:—at least not a large portion of the sum lost in the famine. 4 lacs out of the two hundred and twenty one would afford 200 Rupees for the repairs of each of the wells said to be out of repair, besides 50 Rupees for deepening each of those that is called in repair.—2000 cattle-ponds would give one for every village and hamlet; and for 6 lacs, they might all be dug, down to the granite and their sides faced with stone. Another lac would provide a road by which troops might move with moderate celerity from Madras to the frontier, and the spare produce of Guntoor and Nellore might find its way into the other Northern Circars and the Nizam's dominions.

In short, with an expenditure of less than the revenues of

'one year reduced as they now are, many works might be executed, which would be calculated to mitigate at least, perhaps even in great measure to avert, the worst evils of famine from the Guntoor district, which until some such works are carried on to a much larger extent than hitherto, must remain particularly exposed to such misfortunes. So much money laid out in the course of a few years in the district would be of the greatest assistance to the remaining ryots there.—It would enhance the price of the grain which they sell and would enable them with smaller sacrifice to meet the demands of the government.

The intervals between seasons of scarcity do not often exceed twelve years—and it is now between eleven and twelve years since the great famine occurred.—

1818, 1823, 1824, 1832 and 1833 were five years of *famine* in all which the garce of *cholum,* food for about 100 people for one month, cost nearly or more than 200 Rs. and the prices of the inferior grains *cumboo, raghy* and *wurugoo* all exceeded 150 Rs. In 1818, the prices were very nearly as high as in 1832. Besides these, it will be observed from an examination of the list of prices annexed which extends from fusly 1219 (A. D. 1808-9) to fusly 1252 (A. D 1841-42) a period of 34 years, the years 1813, 1814, 1817, 1819, 1820, 1821, 1822, 1823, 1825, 1834, have all been *bad* years, in which the garce of inferior grain has been worth 120 Rs. or more. In such years, the poor man can afford food for his family, but nothing else.

Price of Grain per Garce in Guntoor.

Years.	Cholum.			Cumboo.			Raughee.			Varagaloo.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
1809-10	106	4	4	83	12	5	75	3	1	86	11	10
1810-11	99	11	6	86	13	1	82	6	6	85	2	10
1811-12	111	12	7	88	15	7	90	10	5	87	13	9
1812-13	137	4	6	117	2	2	108	13	5	115	6	7
1813-14	116	2	0	128	12	3	123	7	0	129	0	4
1814-15	172	12	9	134	11	2	132	8	10	125	6	7
1815-16	142	10	10	117	0	10	109	3	7	108	7	8
1816-17	120	3	3	96	14	3	94	13	6	105	2	10
1817-18	161	14	7	122	6	9	140	11	1	130	1	4
1818-19	221	1	4	192	1	4	184	2	6	176	6	5
1819-20	181	12	5	125	12	0	136	12	5	134	1	4
1820-21	165	13	0	121	12	0	124	13	5	123	13	5
1821-22	157	12	4	134	5	9	129	15	4	124	13	4
1822-23	165	2	8	142	5	1	129	12	0	132	8	0
1823-24	172	0	0	162	10	3	149	15	1	143	9	6
1824-25	177	14	0	194	10	3	157	3	1	157	14	6
1825-26	157	4	2	138	5	4	136	0	7	137	9	10
1826-27	140	11	5	110	11	7	108	5	0	106	8	10
1827-28	98	3	8	112	7	0	77	11	2	75	5	4
1828-29	123	9	2	106	6	9	90	0	8	97	6	4
1829-30	139	10	8	125	5	4	109	15	9	110	7	8
1830-31	127	9	1	94	7	4	89	13	6	89	8	6
1831-32	115	5	10	90	4	7	89	15	8	85	10	10
1832-33	233	11	4	216	10	4	197	14	4	190	0	7
1833-34	272	7	11	228	10	1	218	1	7	222	9	11
1834-35	186	9	$7\frac{1}{2}$	163	12	6	143	14	$10\frac{1}{2}$	143	0	$6\frac{3}{4}$
1835-36	116	13	7	94	1	9	88	14	6	89	13	8
1836-37	110	13	2	90	11	8	82	13	7	80	15	7
1837-38	100	5	1	79	13	5	77	11	0	73	10	8
1838-39	142	14	0	121	13	5	125	3	9	107	3	7
1839-40	110	0	10	85	7	11	82	2	10	81	11	4
1840-41	93	3	2	74	13	6	72	13	7	71	8	9
1841-42	71	8	0	52	12	5	55	13	3	53	0	2
1842-43	59	11	3	64	12	0	43	10	5	41	15	2

X.—*Observations of the Dip of the Needle in Southern India communicated by Lieutenant Ludlow Engineers.*

The accompanying observations of the Dip of the Needle, being but the commencement of a more extensive series, would hardly be worthy of publication at present, did they not afford a comparison with a set of observations taken about 5 years ago at the same stations by Mr. Taylor.

An inspection of Table No. 2 will shew the Dip observed at the two different periods, the change of Dip in the interval and also the Latitude of the Magnetic Equator deduced from the Formula

$$\tan \delta = 2. \tan. \lambda$$

δ being the Dip and λ the Magnetic Latitude of the place.

The mean change of Dip during the interval of about $5\frac{1}{4}$ years thus appears to be about 34′48″ consequently there must have been an average annual increase of about 6.′6″.

Upon comparing this result however with that obtained from a series of stationary observations taken at Madras during the last $2\frac{1}{2}$ years it would appear to be too large. This series is given in Table 1 and calculating the change of Dip from the observations in corresponding months of successive years we get a mean annual increase of only 2′.5″.

In order that we may form some judgment as to which of these two results is most worthy of credit it will be necessary to state the circumstances under which the observations were severally taken.

The observations made at Madras form an uninterrupted series they were all taken with the same Needle and circle and in the same place. Each monthly result moreover is the mean of 16 observations, 2 being taken on the Tuesdays and Fridays of each week.

The large result on the other hand is deduced from a comparison of 2 different series of observations taken with different Instruments and Needles and under totally different circumstances. Moreover the Needles used in 1838 were certainly inferior to those at present employed and the Magnets used in Magnetising them being of a small size, could not so thoroughly saturate them as the powerful ones now employed.

Under these circumstances I think we may safely conclude that more reliance is to be placed in the smaller result of 2′5″ than in the large one of 6′6″.

That the observations now made are not materially in error is proved by the accordance of the results taken with different circles and Needles.

Thus on the 19th April 1844 the Dip taken with a circle in the possession of Mr. Taylor, (the same used in the observations made in 1843 and 1844) was found to be 7° 25′ 41″ This result being the mean of 4 different Needles. On the same day the Dip found by a different Instrument and Needle, (The one always used in the Stationary series) was 7° 26′ 00″ or differing from the other by only a few seconds.

The Dip taken with the last Instrument and Needle on the 16th July 1844 was found to be 7° 27′ 22″. On the following day with another circle belonging to the Magnetic Observatory the mean of 3 needles made it 7° 28′ 33″, differing from the other by a little more than 1′

There is one circumstance arising from a comparison of these two sets of observations which appears worthy of attention. Tracing out the line of the magnetic Equator first from the observations made in 1838, and then from those in 1833 34, we obtain the figures shewn in the accompanying Diagram.

Were we only to regard one of these we might suppose that the devious course of this line was simply owing to errors of observation, but when we come to compare the two we cannot help being struck by their extraordinary similarity which it would be unreasonable to attribute to the effect of accident. The only way by which I can account for it is by supposing that the observations are sensibly effected by local attraction. The observation taken at the Red Hills

when there is an extensive laterite formation, clearly shews that the effect of local attraction is very sensible there. For at this place which is only 7 miles North of Madras, the Dip increasing at the average rate ought to be about 7° 40′ where-as by many careful and accordant observations it was found to be 7° 58′, the Dip at Poonairy a place 10 miles to the North of it being only 7° 54′. This case is perhaps an extraordinary one but I feel convinced that in most places there is an effect produced in this way to a much greater extent than is generally supposed and for which allowance ought to be made. And it may hereafter be an interesting point to determine what effect the Geological formation has upon Magnetic Observations, and whether it may not be possible by means of such observations to throw some light upon the Local Formation.

TABLE No. 1.

Observations of the dip taken at Madras, during the years 1842 1843 *and part of* 1844, *with the same needle.*

	1842.			1843.			1844.		
	°	′	″	°	′	″	°	′	″
January............	7	20.	32.7	7	23.	50.3	7	24.	56.2
February...........	,,	19.	42.	,,	23.	20.1	,,	25.	10.2
March..............	,,	20.	38.8	,,	23.	29.8	,,	24.	56.2
April..............	,,	21.	22.6	,,	22.	59.2	,,	25.	54.1
May................	,,	23.	08.3	,,	24.	35.3	,,	27.	02.
June...............	,,	23.	05.3	,,	24.	05.6	,,	28.	46.7
July...............	,,	22.	56 4	,,	24.	24.9			
August.............	,,	23.	12.4	,,	25	24 0			
September..........	,,	22.	22.8	,,	42	41.6			
October............	,,	21.	46.1	,,	23	12.			
November...........	,,	23.	29.1	,,	23	35.9			
December...........	,,	24.	04.8	,,	24	23.3			

Mean annual increase 2′ 5″

TABLE No. 2.

Place of observation.	Latitude.	Long.	Dip in 1838.	Dip in 1843.	Differenc.	Latitude of Magnetic Equator 1838.	Latitude of Magnetic Equator 1843.	Change.	Remarks.
	North. ° ′	East.	+ ° ′ ″	+	′ ″	° ′ ″	° ″ ′	′ ″	
Poothocottah	10 23	78 53		0 57 00			9 54 29.9		
Tanjore	10 46	79 14		2 1 27			9 45 15.4		
Negapatam	10 46	79 51	1 42 10	2 19 32	37 22	9 54 54.3	9 36 12.3	18 42.0	
Tranquebar	11 01	79 55	2 05 17	2 40 00	34 43	9 58 20.3	9 40 57.4	17 22.9	
Porto Nova	11 29	79 48	3 6 15	3 41 00	34 45	9 55 48.4	9 38 23.2	17 25.2	
Pondicherry	11 54	79 54	4 27 12	5 5 8	37 36	9 40 11.9	9 21 07.9	19 04.0	
Sadras	12 32	80 12	5 31 23	6 7 34	36 0	9 45 55.4	9 27 41.4	18 14.0	
Madras	13 05	80 17	6 50 4	7 24 56	34 52	9 39 14.1	9 21 35.9	17 36.2	
Red Hills	13 10	80 15		7 58 32			9 09 34.1		
Poonairy	13 20	80 16		7 54 00			9 21 52.1		
Goomerapoondy	13 24	80 11		8 9 42			9 17 54.1		
Sooloorpett	13 41	80 3	8 11 17	8 40 10	28 53	9 34 05.9	9 19 25.2	14 40.7	There appears to be some doubt about the former observations at Sooloorpett.
Nailapully	13 52	80 0		9 6 40	0	0	9 16 55.7		
Woogelly	14 00	79 58	8 49 20	9 23 00	33 40	9 33 45.3	9 16 36.	17 09.3	
Goodoor	14 09	79 55		9 36 24	0	0	9 18 45.6		
				Mean.	′ ″ 34 48		Mean.	17 32	

Observations of the Dip of the Needle taken at different stations in Southern India during the month of December 1843 *and January and April* 1844.

Place	Date & Time of Day & temperature.		No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
Poothocottah. Lat. 10° 22′ 50″ N. Long. 78° 52′ 51″ E. Mean Dip 0° 57′ 0″	1843. Dec. 19th.		1	−0°. 13′ +1. 4 +0. 45 +0. 12	−0°. 13′ +1. 5 +0. 45 +0. 12	1°. 7′ 2. 2 1. 48 1. 3	1°. 5′ 2. 4 1. 48 1. 2		Observation taken on a Pillar erected by Mr. Bayly in the Compound of the Rajah's Bungalow. Observer, Lieut. Ludlow, Engineers.
				0. 27	0.27.25	1. 30	1.29.75	0°. 58′. 5	
			2	1. 0 1. 47 1. 55 0. 43	1. 0 1. 45 1. 55 0. 43	−0. 5 +1. 13 +0. 55 +0. 4	−0. 5 +1. 14 +0. 55 +0. 7		
				1.21.25	1.20.75	0.31.75	0.32.75	0°. 56′. 6	
	20th.		1	−0. 8 +0. 45 +0. 44 +0. 16	−0. 6 +0. 40 +0. 45 +0. 11	1. 30 1. 58 1. 48 1. 20	1. 35 1. 56 1. 53 1. 22		
				0.24.25	0.22. 5	1.39. 0	1.41. 5	1°. 1′.81	
	22d.		1	−0. 2 +0. 38 +0. 44 +0. 2	−0. 3 +0. 35 +0. 44 +0. 00	1. 17 1. 52 2. 00 1. 2	1. 16 1. 55 1. 55 1. 7		
				0.20.5	0.19. 0	1.32.75	1.33.25	0°. 56′.37	
			2	0. 58 1. 52 1. 48 0. 45	0. 47 1. 53 1. 49 0. 47	−0. 20 +1. 19 +0. 43 +0. 10	−0. 18 +1. 17 +0. 43 +0. 10		
				1.20.75	1.19. 0	0.28. 0	0.28. 0	0°. 53′.94	
	23d. 6½ A. M. 70°.	L.	1	−1. 28 −0. 55 −0. 37 −1. 47	−1. 35 −0. 59 −0. 44 −1. 45	2. 23 3. 25 3. 42 2. 38	2. 33 3. 31 3. 40 2. 45		
				−1.11.75	−1.15.75	3. 2. 0	3. 7.25	0°. 55′.44	
	7½ A. M. 70°.	L.	2	1. 9 1. 55 1. 57 0. 58	1. 4 1. 50 1. 53 1. 1	0. 4 0 52 0. 54 0. 00	0. 2 0. 58 0. 50 0. 5		
				1.29.75	1.27. 0	0.27. 5	0.28.75	0°. 58′.25	
	9½ A. M. 78°.		1	−0. 15 +0. 49 +0. 39 +0. 6	−0. 13 +0. 44 +0. 41 +0. 4	1. 28 1. 54 2. 03 1. 5	1. 27 1. 58 2. 0 1. 9		
				0.19.75	0.19. 0	1.37. 5	1.38. 5	0°. 58′.69	

Observations of the Dip of the Needle taken at different stations in Southern India during the month of December 1843 *and January and April* 1844.

Place.	Date & Time of Day & temperature.	No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
	1843. Dec.							
Poothocottah.	23d.	1	0. 0	0. 0	1. 17	1. 22		
	11½ A. M.		0. 37	0. 32	2. 4	2. 3		
			0. 36	0. 35	1. 57	2. 5		
	85°.		—0. 2	—0. 7	1. 21	1. 19		
			0 17.75	0.15. 0	1.39.75	1.42.25	0°. 58′. 69	
	1 P. M.	2	0. 52	0. 49	0. 17	0. 18		
			1. 35	1. 34	0. 33	0. 36		
	85°.		1. 50	1. 53	1. 15	1. 14		
			0. 40	0. 48	0. 8	0. 7		
			0. 20	0. 21	0. 7	0. 8		
			1. 36	1. 34	0. 32	0. 36		
			1. 50	1. 51	1. 4	1. 3		
			0. 45	0. 44	0. 17	0. 18		
			1.11. 0	1.11.75	0.31.62	0.32. 5	0°. 51′. 72	
Tanjore.	25th.	1	0. 39	0. 41	2. 15	2. 20		On a Masonry Pillar erected by Mr. Bayley in the Compound of the Residency. Observer Lieut. Ludlow Engineers.
Latitude. 10° 46′ N.	9 A. M.		1. 48	1. 50	2. 52	2. 50		
			1. 25	1. 24	2. 58	3. 4		
Longitude. 79 14 E.	76°. 5		1, 12	1. 8	2. 12	2. 11		
Mean Dip 2° 1′ 27″			1.16. 0	1.15.75	2.34.25	2.36.25	1°. 55′. 56	
	10 A. M.	2	2. 5	2. 6	1. 1	1. 0		
			2. 24	2. 22	1. 52	1. 55		
	80°.		2. 54	2. 53	1. 38	1. 37		
			2. 3	2. 1	1. 7	1. 8		
			2.21. 5	2.20. 5	1.21. 5	1.25. 0	1°. 52′. 87	
	½ P. M.	L. 2	2. 10	2. 13	0. 49	0. 55		
			2. 56	2. 51	2. 0	1. 55		
	82°.		2. 34	2. 37	1. 25	1. 32		
			2. 13	2. 9	0. 49	0. 55		
			2.28.25	2.27. 5	1.15.75	1.19.25	1°. 52′. 69	
	1¼ P. M.	L. 1	—0. 47	—0. 55	3. 47	3. 44		
			+0. 23	+0. 26	4. 13	4. 6		
	84°.		+0. 3	+0. 10	4. 25	4. 23		
			—0. 44	—0. 40	3. 44	3. 51		
			—0.16.25	—0.14.75	4. 2.25	4. 1. 0	1°. 53′. 06	
Negapatam.	27th.	L. 2	2. 25	2. 30	1. 57	1. 55		
Lat. 10° 46′ N.	7½ A. M.		3. 44	3. 37	2. 21	2. 27		
Long. 79° 51′ E.			3. 14	3. 17	2. 30	2. 34		
Mean Dip 2° 19′ 32″			2. 44	2. 49	1. 19	1. 26		
			3. 1.75	3. 3.25	2. 1.75	2. 5. 5	2°. 33′. 06	

Observations of the Dip of the Needle taken at different stations in southern India during the Month of December 1843, *and January* 1844.

Place.	Date & Time of Day & temperature.	No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
Negapatam. Mean Dip 2° 19′ 32″	1843. Dec. 27th. 8¼ A. M.	L. 1	0. 2 0. 33 0. 40 0. 42	0. 4 0. 26 0. 45 0. 34	4. 15 4. 32 5. 16 4. 21	4. 23 4. 41 5. 6 4. 25		Observation taken in a shed erected in the garden of aptain Lawford's house. Observer Lieut. Ludlow Engineers.
			0.8.25	0.10.25	4. 3. 6	4.58,75	2°. 23′.31	
	½ P. M.	L. 1	−0. 32 +0. 25 +0. 22 —0. 5	−0. 39 +0. 30 +0. 14 —0. 3	4. 3 4. 40 4. 30 3. 43	3. 57 4. 47 4. 28 3. 50		
			0. 25	0. 0. 5	4.14. 0	4.15. 5	2°. 8′.12	
	1½ P. M.	L. 2	2. 13 3. 36 3. 3 2. 41	2. 17 3. 33 3. 6 2. 45	0. 59 2. 38 2. 12 1. 46	1. 5 2. 34 2. 18 1. 43		
			2.53.25	2.55.25	1.53.75	1.55. 0	2°. 24′.31	
	2¼ P. M.	2	2. 47 3. 19 3. 25 2. 8	2. 43 3. 19 3. 21 2. 5	1. 36 2. 20 2. 3 1. 27	1. 36 2. 23 2. 1 1. 29		
			2.54.75	2.52. 0	1.51. 5	1.52.25	2°. 22′.61	
	3½ P. M.	1	0. 50 2. 24 2. 38 1. 33	0. 52 2. 19 2. 40 1. 28	2. 28 3. 17 3. 21 2. 7	2. 24 3. 17 3. 26 2. 5		
			1.51.25	1.49.75	2 48.25	2. 48.0	2°. 19′.31	
Tranquebar. Lat. 11° 1′ N. Long. 79° 55′ E. Mean Dip 2° 40′ 0″	29th. 7 A. M.	1	1. 32 2. 34 2. 24 1. 55	1. 34 2. 31 2. 24 1. 50	2. 57 3. 40 3. 32 3. 11	3. 3 3. 39 3. 36 3. 8		Observation made in a shed erected in the garden of the country residence of his excellency the Governor. Observer Lieut. Ludlow, Engineers.
			2. 6.25	2. 4.75	3.20. 0	3.21. 5	2°. 43′.12	
	7½ A. M	2	2. 43 3. 21 3. 25 3. 2	2. 40 3. 22 3. 22 3. 3	1. 51 2. 37 2. 23 1. 44	1. 50 2. 39 2. 23 1. 46		
			3. 7.75	3. 6.75	2. 8.75	2. 9. 5	2°. 38′.19	

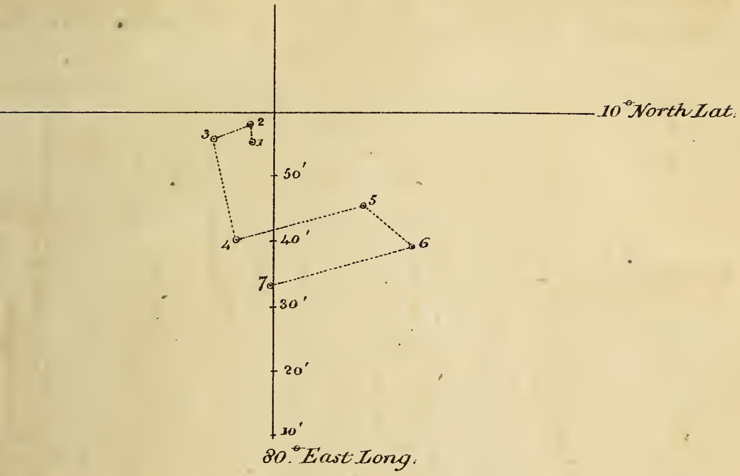
Position of the

Magnetic Equator

deduced from Observations of the Dip

at 7 Stations in

1838.



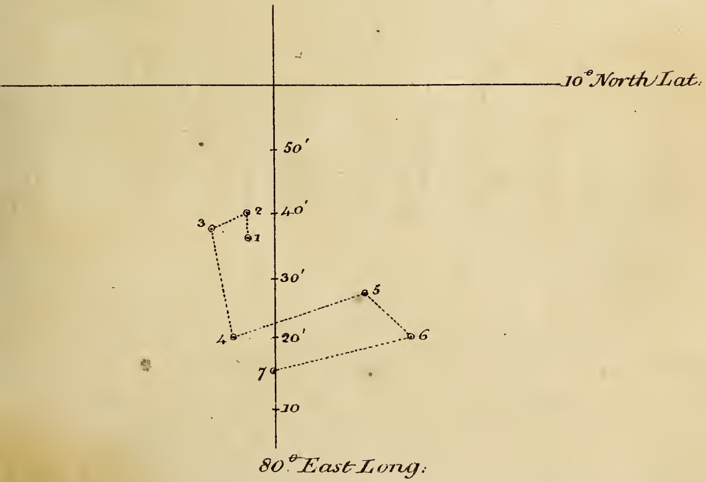
Position of the

Magnetic Equator

deduced from Observations of the Dip

at the same Stations in

1843.



Observations of the Dip of the Needle taken at different stations in southern India during the Months of December 1843, *and January* 1844.

Place.	Date & Time of Day & temperature.	No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
	1843. Dec.							Observation taken in a Temporary shed erected in a field of Mr. Fasciolle near the Botanical garden. Observer Lieut. Ludlow Engineers.
Tranquebar.	29th.	L. 2	3. 4	3. 7	1. 12	1. 17		
Mean Dip 2° 40′ 0″	10½ A. M.		3. 53	3. 47	2. 30	2. 27		
			3. 59	4. 2	2. 1	2. 6		
	81°.		3. 26	3. 20	1. 34	1. 30		
			3.35. 5	3.34. 0	1.49.25	1.50. 0	2°. 42′. 19	
	11½ A. M.	L. 1	0. 6	0. 1	4. 38	4. 35		
			0. 37	0. 41	4. 44	4. 36		
	81°. 5		1. 4	0. 56	4. 57	4. 54		
			0. 4	0. 6	4. 49	4. 56		
			0.27.75	0.26. 0	4.47. 0	4.45.25	2°. 36′. 50	
Portnova.	30th.	1	2. 19	2. 21	3. 57	4. 1		
Lat. 11°. 29′. N.			3. 15	3. 10	4. 31	4. 29		
Long. 79°. 48′. E.			3. 19	3. 20	4. 44	4. 50		
Mean Dip 3° 41′ 0″			2. 41	2. 36	3. 58	3. 56		
			2.53. 5	2.51. 5	4.17. 5	4.19. 0	3°. 35′. 37	
		2	3. 51	3. 48	2. 55	2. 55		
			4. 25	4. 24	3. 44	3. 46		
			4. 16	4. 14	3. 46	3. 44		
			3. 47	3. 48	2. 46	2. 49		
			4. 4.75	4. 3. 5	3.17.75	3.18. 5	3°. 41′. 12	
		L. 1	1. 4	0. 55	5. 32	5. 28		
			1. 27	1. 31	6. 23	6. 29		
			1. 47	1. 40	6. 31	6. 27		
			0. 53	0. 54	5. 44	5. 51		
			1.17,75	1.15. 0	6. 2. 5	6. 3.75	3°. 39′. 75	
		L. 2	4. 20	4. 24	2. 7	2. 14		
			4. 30	4. 24	3. 52	3. 49		
			5. 10	5. 13	3. 3	3. 9		
			4. 20	4. 14	2. 59	2. 53		
			4 35. 0	4.33.75	3. 0.25	3. 2. 0	3°. 47′. 75	
	1844. Jan.							
Pondicherry.	2nd.	L. 2	4. 51	4. 54	4. 18	4. 25		
Lat. 11°. 54′. N.	2¼ P. M.		6. 11	6. 4	5. 12	5. 8		
Long, 79°. 54′. E.			6. 4	6. 5	4. 25	4. 33		
Mean Dip 5° 5′ 8″	87°.		5. 30	5. 25	4. 17	4. 16		
			5.39. 0	5.37. 0	4.33. 0	4.35. 5	5°. 6′. 12	

Observations of the Dip of the Needle taken at different stations in Southern India during the month of January 1844.

Place.	Date & Time of Day & temperatue.	No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
Pondicherry. Mean Dip 5° 5′ 8″	1844. Jan. 2d. 2¾ P. M. 87°.	L. 1	2. 33 3. 12 3. 16 2. 6	2. 25 3. 15 3. 8 2. 7	7. 1 7. 58 7. 38 7. 7	6. 56 8. 7 7. 36 7. 14		Observation taken in the Verandah of Mr. Heath's Bungalow. Observer Lieut. Ludlow Engineers.
			2.46.75	2.43.75	7.26. 0	7.28.25	5°. 6′. 19	
	3¾ P. M. 85°.	2	5. 10 6. 14 5. 43 5. 36	5. 7 6. 12 5. 38 5. 37	4. 4 4. 52 4. 38 4. 17	4. 5 4. 47 4. 39 4. 14		
			5.40.75	5.38. 5	4.27.75	4.26.25	5°. 3′. 31	
	4½ P. M. 84°.	1	3. 53 5. 11 5. 9 4. 10 3. 53 4. 40 4. 44 4. 9	3. 45 5. 5 5. 11 4. 6 3. 54 4. 36 4. 43 4. 5	5. 11 5. 53 5. 58 5. 28 5. 14 6. 3 5. 44 5. 25	5. 16 5. 53 6. 4 5. 27 5. 10 6. 5 5. 49 5. 23		
			4.28.62	4.25.62	5.37. 0	5.38.37	5°. 2′. 4	
	5½ P. M. 83°.	2	5. 23 6. 24 6. 7 5. 18	5. 19 6. 23 6. 3 5. 18	4. 18 4. 41 4. 42 4. 17	4. 17 4. 44 4. 42 4. 21		
			5.48. 0	5.45.75	4.29. 5	4.31. 0	5°. 8′. 62	
	3d. 9¼ A. M. 76°.	1	4. 3 4. 40 4. 46 4. 6	4. 4 4. 34 4. 46 4. 1	5. 52 6. 13 5. 58 5. 14	5. 57 6. 14 6. 5 5. 12		
			4.23.75	4.21.25	5.49.25	5.52. 0	5°. 6′. 56	
	10½ A. M. 81°. 5	2	5. 24 5. 44 5. 37 5. 22	5. 21 5. 44 5. 34 5. 23	4. 25 4. 49 4. 46 4. 21	4. 26 4. 48 4. 47 4. 24		
			5.31.75	5.30. 5	4.35.25	4.36.25	5°. 3′. 44	
	2 P. M. 84.°	L. 1	2. 14 3. 16 3. 3 3. 32	2. 6 3. 19 2. 55 3. 35	7. 4 7. 18 7. 55 6. 48	6. 59 7. 27 7. 53 6. 56		
			3. 1.25	2.58.75	7.16.25	7.18.75	5°. 8′. 75	

Observations of the Dip of the Needle taken at different station in southern India during the Month of January, 1844.

Place.	Date & Time of Day & temperature.	No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
Pondicherry.	1844. Jan. 3rd. 2½ P. M.	L. 2	4. 57 5. 54 5. 57 4. 56	5. 0 5. 45 5. 58 4. 52	3. 56 5. 55 4. 35 4. 9	4. 3 5. 52 4. 43 4. 7		
			5. 26.0	5.23.75	4.38.75	4.41.25	5°. 2′.44	
Sadras. Lat. 12°. 32′ N. Long. 80°. 12′ E. Mean Dip 6° 7′ 34″	4th. 5 P. M.	L. 2	6. 17 7. 6 7. 15 6. 19	6. 21 6. 58 7. 16 6. 14	4. 49 6. 15 5. 34 5. 14	5. 5 6. 12 5. 42 5. 18		Observation taken in a shed erected on the plain near the public Bungalow. Observer Lieut. Ludlow, Engineers.
			6.44.25	6.42.25	5.28. 0	5.34.25	6°. 7′.19	
	5th. 8 A. M.	L. 2	5. 59 6. 51 6. 34 6. 35	6. 5 6. 43 6. 30 6. 31	5. 3 6. 10 5, 49 5. 16	5. 7 6. 7 5. 56 5. 18		
			6.29.75	6.27.25	5.34. 5	5.37. 0	6°. 2′.12	
		L. 1	3. 38 4. 13 4. 28 3. 40	3. 33 4. 15 4. 21 3. 43	8. 8 8. 21 8. 44 8. 3	8. 14 8. 29 8. 45 7. 56		
			3.59.75	3.58. 0	8.19. 0	8.21. 0	6°. 9′.44	
		L. 1	3. 26 4. 29 4. 12 3. 31	3. 17 4. 32 4. 4 3. 35	8. 5 8. 39 8. 50 8. 5	8. 0 8. 48 8. 48 8. 12		
			3.54. 5	3.52. 0	8.24.75	8.27. 0	6°. 9′.56	
	10 A. M.	1	4. 55 6. 9 5. 30 5. 19	4. 56 6. 4 5. 31 5. 15	6. 22 6. 58 6. 57 6. 28	6. 26 6. 57 6. 58 6. 26		
			5.28.25	5.26. 5	6.41.25	6.41.75	6°. 4′.44	
		2	6. 31 7. 4 7. 4 6. 8	6. 28 7. 3 7. 0 6. 11	5. 14 5. 57 6. 5 5. 41	5. 13 6. 1 6. 4 5. 43		
			6.41.75	6.40. 5	5.44.25	5.45.25	6°. 12′.94	

Observations of the Dip of the Needle taken at different stations in southern Indiaduriug the Month of January and April 1844.

Place.	Date & Time of Day & temperature.	No. of the Needle.	Poles Direct.		Poles eversed.		Dip.	
			Readings.	Readings.	Readings.	Readings.		
	1844. Jan.							
Sadras.	5th.	1	5°. 17′	5. 18	6. 24	6. 28		
			5. 56	5. 51	6. 51	6. 51		
			5. 46	5. 46	7. 3	7. 8		
			5. 4	5. 7	6. 28	6. 27		
			5.30.75	5.30. 5	6.41. 5	6.43. 5	6°. 6′. 56	
		2	6. 26	6. 23	5. 23	5. 23		
			6. 52	6. 53	6. 12	6. 8		
			6. 54	6. 49	5. 51	5. 51		
			6. 19	6. 18	5. 15	5. 18		
			6.37.75	6.35.75	5.40.25	5.40. 0	6°. 8′. 44	
Red Hills. Latitude 13° 10′ Longitude 80° 15′ Mean Dip 7° 59′ 32″	Apr. 5th 7½ A. M.	1	7. 30	7. 35	8. 48	8. 48		Observation taken on the wooden pillar stand in the Tent near the bank of the Tank at Lawyer Teed's Garden. Observer R. Ramanjooloo Naidoo.
			7. 31	7. 35	8. 46	8. 44		
			7. 11	7. 8	8. 22	8. 22		
			7. 9	7. 5	8. 22	8. 22		
			7. 2	7. 4	8. 16	8. 11		
			7. 0	7. 0	8. 17	8. 13		
			7. 48	7. 45	8. 45	8. 42		
			7. 49	7. 46	8. 45	8. 42		
			7.22. 5	7.22.25	8.32.62	8.30. 5	7°. 56′. 97	
	8½ A. M.	2	8. 35	8. 35	8. 2	8. 3		
			8. 36	8. 36	8. 5	8. 6		
			7. 59	7. 58	7. 5	7. 5		
			7. 55	7. 54	7. 1	7. 0		
			8. 3	7. 58	8. 9	8. 5		
			8. 5	8, 0	7. 49	7. 47		
			8. 48	8. 50	7. 7	7. 7		
			8. 54	8. 50	7. 11	7. 11		
			8.21.88	8.20.12	7.33.62	7,33. 0	7°. 57.′15	
	4¾ P. M.	2	8. 41	8. 38	7. 5	7. 10		
			8. 41	8. 38	7. 4	7. 0		
			8. 0	8. 2	8. 4	8. 4		
			8. 6	8. 8	8. 12	8. 12		
			7. 52	7. 48	8. 12	8. 11		
			7. 50	7. 46	8. 15	8. 14		
			8. 46	8. 49	7. 2	7. 2		
			8. 42	8. 55	7. 9	7. 8		
			8.21. 0	8.20. 5	7.37.88	7.37.62	7°. 59′. 25	
	5¾ P. M.	1	7. 42	7. 45	8. 47	8. 44		
			7. 33	7. 36	8. 45	8. 44		
			7. 25	7. 25	8. 15	8. 18		
			7. 23	7. 23	8. 16	8. 18		
			6. 58	7. 0	8. 10	8. 6		
			6. 53	6. 55	8. 16	8. 11		
			8. 3	8. 2	8. 58	8. 58		
			8 3	8. 2	8. 55	8. 55		
			7.30. 0	7.31. 0	8.32,75	8.31.75	8°. 1′. 37	

Observations of the Dip of the Needle taken at different stations in southern India during the Month of April 1844.

Place.	Date & Time of Day & temperature.	No. of the Needles.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
	1844. Apr. 6th							
Red Hills.	7½ A. M.	1	7. 30	7. 32	8. 52	8. 49		
			7. 14	7. 12	8, 20	8. 21		
			6. 52	6. 54	8. 16	8. 13		
			7. 42	7. 40	9. 0	9. 5		
			7.19. 5	7.19. 5	8.37. 0	8.37. 0	7°. 58′. 25	
	9 A. M.	2	8. 43	8. 43	8. 3	8. 2		
			8. 2	8. 2	7. 0	7. 0		
			7. 48	7. 44	7. 22	7. 25		
			8. 53	8. 57	7. 5	7. 50		
			8.21. 5	8.21. 5	7.34.25	7.34.25	7°. 57′. 88	
	4½ P. M.	1	7. 43	7. 45	8. 50	8. 46		
			7. 13	7. 13	8. 35	8. 35		
			6. 45	6. 42	8. 32	8. 29		
			7. 40	7. 36	9. 5	9. 6		
			7.20.25	7.19.00	8.45.50	8.44.00	8°. 2′. 18	
	5¼ P. M.	2	8. 21	8. 21	7. 27	7. 23		
			8. 50	8. 47	8. 5	8. 6		
			8. 47	8. 45	7. 47	7. 44		
			7. 57	7. 54	7. 19	7. 20		
			8.28.75	8.26.75	7.39.50	7.38.25	8°. 3′. 31	
Poonary. Lat. 13°. 20′. N. Long. 80°. 16′, E. Mean Dip 7° 55′ 0″	Apr. 9th 7½ A. M.	1	7. 35	7. 38	8. 15	8. 15		Observation taken in a Tent pitched in a Tope near the choultry. Observer R. Ramanjooloo Naidoo.
			7. 9	7. 3	8. 55	8. 53		
			7. 10	7, 8	8. 27	8. 25		
			7. 47	7. 44	8. 40	8. 42		
			7.25.25	7.23.25	8.34.25	8.33.75	7°. 59′.12	
	8½ P. M,	2	8. 22	8. 21	7. 12	7. 10		
			8. 45	8. 42	7. 45	7. 42		
			8. 0	7. 58	7. 55	7. 50		
			8. 50	8. 52	7. 12	7. 18		
			8.29.25	8.28.25	7.31. 0	7.30. 0	7°. 59′.62	
	4½ P. M.	2	8. 10	8. 6	7. 21	7. 17		
			8. 30	8. 30	7. 45	7. 45		
			8. 0	8. 0	7. 50	7. 45		
			8. 50	8. 50	7. 15	7. 17		
			8.22. 5	8.22. 5	7.32.75	7.31. 0	7°. 57′.19	
	5½ P. M.	1	7. 43	7. 42	8. 42	8. 42		
			7. 00	7. 0	8. 22	8. 22		
			7. 42	7. 42	8. 45	8. 47		
			7. 12	7. 15	8. 10	8. 6		
			7.24.25	7.24.75	8.29.75	8.29.25	7°.57′. 0	

Observations of the Dip of the Needle taken at different stations in Southern India during the months of January and April 1844.

Place.	Date & Time of Day & temperature.	No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
Poonary.	1844. April 10th. 7¼ A. M.	1	7. 6	7. 0	8. 14	8. 15		
			7. 41	7. 41	8. 41	8. 36		
			7. 35	7. 34	8. 47	8. 51		
			6. 54	6. 56	8. 7	8. 4		
			7.19. 0	7.17.75	8.27.25	8.26.5	7°. 52′. 62	
	8½ A. M.	2	8. 5	8. 3	7. 15	7. 10		
			8. 26	8. 23	7. 42	7. 45		
			8. 47	8. 47	8. 1	7. 58		
			7. 49	7. 54	6. 56	6. 54		
			8.16.75	8.16.75	7.28.5	7.26.75	7°. 52′. 16	
	9¾ A. M.	L. 1	5. 24	5. 28	10. 33	10. 25		* This Observation was taken with a different Needle
			5. 21	5. 16	10. 25	10. 29		
			5. 43	5. 47	10. 34	10. 31		
			5. 4	5. 0	9. 45	9. 50		
			5. 23	5.22.75	10.19.25	10.18.75	7°. 50′. 7	
	3 P. M.	O. L.* 2	7. 2	7. 4	8. 13	8. 17		
			7. 22	7. 28	8. 42	8. 45		
			7. 40	7. 45	8. 39	8. 42		
			7. 5	7. 7	8. 2	8. 2		
			7.17.25	7.21	8. 24	8.26. 5	7°. 52′. 18	
	4½ P. M.	1	7. 20	7. 18	8. 3	8. 3		
			7. 32	7. 30	8. 40	8. 37		
			8. 0	7. 57	8. 37	8. 40		
			6. 55	6. 58	8. 11	8. 8		
			7.26.75	7.25.75	8.22.75	8. 22	7°. 54′. 32	
	5½ P. M.	2	8. 10	8. 8	7. 40	7. 36		
			8. 25	8. 27	7. 47	7. 50		
			8. 34	8. 36	7. 35	7. 35		
			7. 52	7. 48	7. 25	7. 23		
			8.15.25	8.14.75	7.36.75	7. 36	7°. 55′. 68	
Goomerapoondy Latitude. 13° 24′ N. Longitude. 80 11 E. Mean Dip 8° 10′ 42″	29th.	1	7. 55	7. 50	9. 10	9. 15		Observed by T. G. Taylor Esq.
			7. 00	7. 5	8. 15	8. 15		
			7. 10	7. 10	8. 25	8. 30		
			8. 0	8. 5	9. 10	9. 5		
			7.31.25	7.32. 5	8. 45.0	8.46.25	8°. 8′. 75	
		2	9. 0	9. 5	8. 5	8. 5		
			8. 5	8. 10	7. 15	7. 15		
			8. 20	8. 20	7. 20	7. 25		
			9. 10	9. 15	8. 15	8. 20		
			8.38·75	8.42.5	7.43.75	7.46.25	8°. 12′. 82	
		L. 1	7. 10	7. 10	10. 10	10. 15		
			6. 15	6. 10	9. 20	9. 10		
			6. 15	6. 15	9. 15	9. 10		
			6. 50	6. 55	10. 10	10. 10		
			6.37. 5	6.37.5	9.43.75	9.41.25	8°. 10′. 0	

Observations of the Dip of the Needle taken at different stations in Southern India during the month of April 1844.

Place.	Date & Time of Day & temperature.	No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
	1844. April.							
Goomerapoondy.	29th.	L. 2	7. 40	7. 45	9. 40	9. 40		Taken in the Verandah of the Public Bungalow observed by T. G. Taylor Esq.
			6. 50	6. 50	8. 45	8. 45		
			6. 40	6. 40	8. 40	8. 40		
			7. 45	7. 40	9. 35	9. 35		
			7.13.75	7.13.75	9.10. 0	9.10. 0	8°. 11′.87	
Shooloorpet.	24th.	1	8. 10	8. 10	10. 15	10. 15		
Lat. 13° 41′ N.			7. 20	7. 20	8. 45	8. 50		
Long. 80° 3′ E.			7. 40	7. 40	8. 25	8. 25		
Mean Dip 8° 41′ 10″			8. 20	8. 20	10. 00	10. 5		
			7.52. 5	7.52. 5	9.21.25	9.23.75	8°. 37′. 5	
		2	9. 30	9. 30	8. 35	8. 50		
			8. 40	8. 45	7. 55	8. 00		
			8. 40	8. 45	7. 40	7. 45		
			9. 25	9. 30	8. 25	8. 20		
			9. 3.75	9. 7. 5	8. 8.75	8. 8.75	8°. 37′.18	
		L. 1	7. 55	7. 50	10. 20	10. 15		
			7. 10	7. 10	9. 45	9. 45		
			7. 15	7. 20	9. 25	9. 25		
			8. 00	8. 5	10. 25	10. 30		
			7.35.	7.36.25	9.58.75	9.58.75	8°. 47′.18	
		L 2	8. 20	8. 25	10. 20	10. 15		
			7. 25	7. 20	8. 40	8. 45		
			7. 35	7. 40	9. 15	9. 15		
			8. 15	8. 10	9. 55	9. 50		
			7.53.75	7.53.75	9.32. 5	9.31.25	8°. 42′.82	
Nailapeelly.	27th.	1	9. 25	9. 20	10. 20	10. 20		Observed by T. G. Taylor Esq.
Lat. 13° 52′ N.			8. 10	8. 10	9. 25	9. 25		
Long. 80° 0′ E.			8. 15	8. 10	9. 30	9. 30		
Mean Dip 9° 7′ 40″			8. 40	8. 40	10. 20	10. 20		
			8.37.50	8.35.	9.53.75	9.53.75	9°. 15′. 0	
		2	10. 25	10. 25	8. 50	8. 45		
			9. 20	9. 20	7. 35	7. 30		
			9. 10	9. 15	7. 55	7. 55		
			10. 20	10. 15	8. 55	8. 55		
			9.48.75	9.48.75	8.18.75	8. 15	9°. 3′. 13	
		L 1	8. 25	8. 25	10. 35	10. 30		
			7. 20	7. 20	9. 45	9. 50		
			7. 25	7. 20	10. 00	9. 55		
			8. 20	8. 25	10. 40	10. 45		
			7.25. 5	7.52. 5	10.15.	10.15	9°. 3′. 57	
		L 2	8. 25	8. 20	10. 45	10. 45		
			8. 00	7. 55	9. 45	9. 40		
			7. 50	7. 50	9. 35	9. 35		
			8. 45	8. 45	10. 10	10. 15		
			8.15	8.12. 5	10.3.75	10.3.75	9°. 8′. 75	

Observations of the Dip of the Needle taken at different stations in southern India during the Month of April 1844.

Place.	Date & Time of Day & temperature.	No. of the Needle.	Poles Direct. Readings.	Poles Direct. Readings.	Poles Reversed. Readings.	Poles Reversed. Readings.	Dip.	
	1844. April.							
Woogelly.	25th.	1	8. 55	8. 55	10. 15	10. 15		Taken in the Verandah of the Public Bungalow by T. G. Taylor Esq.
Lat. 14° 0′ N.			8. 15	8. 20	10. 00	10. 5		
Long. 79° 58′ E.			8. 00	7. 55	9. 25	9. 25		
Mean Dip 9° 24′ 0″			9. 25	9. 30	10. 20	10. 20		
			8.38.75	8. 40	10. 0.	10.1.15	9°. 20′. 0	
		2	10. 15	10. 10	9. 15	9. 10		
			9. 20	9. 20	8. 50	8. 50		
			9. 25	9. 30	8. 5	8. 10		
			10. 25	10. 20	9. 30	9. 30		
			9.51.25	9. 50.	8.55.	8.55.	9°. 22′.82	
		L. 1	8. 20	8. 25	11. 15	11. 20		
			7. 30	7. 30	10. 25	10. 15		
			7. 45	7. 45	10. 20	10. 25		
			8. 35	8. 35	11. 35	11. 30		
			8. 2.50	8. 3.75	10.53.75	10.52.5	9°. 28′.12	
		L. 2	8. 45	8. 45	10. 55	10. 50		
			8. 10	8. 10	9. 50	9. 55		
			8. 15	8. 20	9. 55	10. 00		
			8. 50	8. 50	10. 35	10. 35		
			8. 30	8.31.25	10.18.75	10.20.	9°. 25′. 0	
Goodoor.	26th.	1	9. 45	9. 40	10. 40	10. 45		Taken in the Verandah of the Public Bungalow by T. G. Taylor Esq.
Lat. 14° 9′ N.			8. 40	8. 40	9. 40	9. 40		
Long. 79° 55′ E.			8. 50	8. 50	9. 50	9. 45		
Mean Dip 9° 37′ 24″			9. 30	9. 25	10. 20	10. 20		
			9.11.25	9.8.75	10.7.5	10.7. 5	9°. 38′.75	
		2	10. 50	10. 55	9. 35	9. 30		
			9. 40	9. 40	8. 50	8. 50		
			9. 40	9. 40	8. 30	8. 35		
			10. 30	10. 35	9. 30	9. 35		
			10. 10	10.12.5	9. 6.25	9. 7. 5	9°. 39′. 6	
		L. 1	8. 20	8. 20	11. 30	11. 30		
			7. 55	7. 50	10. 35	10. 35		
			7. 50	7. 45	10. 25	10. 30		
			8. 30	8. 25	11. 30	11. 30		
			8. 8.75	8. 5.0	11. 0. 0	11. 1.25	9°. 33′.75	
		L 2	9. 20	9. 20	10. 40	10. 45		
			8. 20	8. 20	10. 00	10. 10		
			8. 30	8. 35	10. 00	10. 00		
			9. 10	9. 15	10. 50	10. 50		
			8. 50	8. 52.5	10.22.5	10.26.25	9°. 37′.82	

XI.—*Notices.*

Pondicherry Fossils.—The specimens taken home by Mr. Kaye from Varadoor, Verdachellum, &c. were exhibited to the Geological society during the course of last summer and pronounced " to be a splendid collection. Prof. Forbes called it an enormous addition to the Fauna, of the most beautiful forms and of the most interesting period. When they were first seen they were supposed to be upper cretaceous and even to contain a mixture of tertiary forms and as it was just at that time a subject of much discussion whether there was any passage between the chalk and tertiary rocks, the Pondicherry beds were by many supposed to form the link. Subsequently however they were discovered to belong to the lower green sand and Neocomien. The neocomien beds are known certainly to exist only in the south of France, and there are none of the fossils in England, but Professor Forbes has compared mine with the beautiful engravings of the French geologists and has identified several of the *ammonites* and some of the singular forms, which for want of a better name we used to call *hamites*, with these French fossils: they are the lowest bed of the green sand, or between the green sand and the Oolite and the Indian fossils became doubly interesting from the fact that just as I brought them before the meeting, the existence of these neocomien beds in England was a subject of keen debate." *Extract of a letter dated October* 1843.

In a notice of the sitting of the Geological Society on the 31 January, it is stated that the Pondicherry fossils are nearly all new forms whence the bed is considered to belong to the lowest part of the lower green sand, whilst from the occurrence of many well known green sand specimens in the Verdachellum and Trichinopoly deposits they have been referred to the upper green sand. In this report (by the curator) 156 new species of mollusca are described and named. *Athenæum.*

A Subsequent letter dated in March last states:

" Our fossils have lately attracted still more attention than before. At the anniversary meeting this year they were almost the only things on the table and formed one of the main topics of the President's speech. A long report on them was also read by Professor Forbes the curator of the museum, and there seems now to be little doubt left that the Trichinopoly and Verdachellum beds are of nearly the same age and are contemporaneous with our English green sand. There are several shells common to Trichinopoly and Verdachellum and which are quite identical with fossils of the green sand. The Pondicherry beds are lower than these,

and come nearest to what the French called the *Neocomien* beds the word is derived from Neocomiensis—Neufchatel—because they are principally developed there."

"They are the lowest beds of the green sand, and I believe we have not their exact equivalents in England. They abound in beautiful and peculiar ammonites and a great variety of those fossils which we used to call *hamites* but which have various other denominations such *ptycoceras, ancyloceras,* &c. &c. not intelligible to you without specimens: the French have published beautiful but rather imaginative drawings of these fossils, some of which our specimens will I believe correct. Professor Forbes has nearly completed his list of these fossils: naming and describing them and the President is anxious to have them published as soon as possible. Another circumstance has given our collections an interest: that is, the great abundance of *volutes* (of which there are nearly 10 species) and the presence of the *cypræa, cerithium* and one or two other shells (which have hitherto been thought almost peculiar to the tertiary beds) in formations of such great age. This circumstance affects several geological theories of importance. There was one very valuable specimen in your Verdachellum set. It was the bones of an *ophiura* or starfish which Professor Forbes says is the best preserved specimen he ever saw from the cretaceous beds."

Discovery of Roman Coins in the Coimbatore District.—In the month of May 1842 after a heavy fall of rain, an earthern pot was discovered in a piece of waste land belonging to the village of Vellaloor about 4 miles to the east of the town of Coimbatore, which on examination was found to be filled with silver coins. When brought to the Collector they were found to be Roman Denarii, 522 in number, chiefly of reigns of Augustus and Tiberius, with a few of Caligula and Claudius. The earthern vessel in which they had lain was like the common terra cotta *lota* of the present time. It was broken to pieces in the scramble of the finders to possess themselves of its contents. Vellaloor is not known to be remarkable as a place of importance either in ancient or modern times.

Only eleven different types were found to occur in the large number of coins above mentioned.

1. Obv. Head of Augustus ....134 examples.

CAES. AVGVSTVS. DIVI. F. PATER. PATRIAE.

Rev. The Pontifical instruments and two bucklers between the standing figures of Caius and Lucius.

C. L. CAESARES. AVGVSTI. F. COS. DESIG. PRINC. IVVENT.

2. Head of Augustus.......... ....1 example

AVGVSTVS. DIVI. F.

Diana Venetrix.

IMP.X.

3. Head of Tiberius....... ....378 examples.

TI. CAESAR. DIVI. AVG. F. AVGVSTVS.

The Emperor seated in a chair.

PONTIF. MAXIM.

4. Head of Drusus Senior.... .. ..1 example.

NERO. CLAVDIVS. DRVSVS. GERMANICVS. IMP.

A triumphal arch ; on the frieze,

DEGERMANIS.*

5. Head of Germanicus (son of the above)..............1 example.

GERMANICVS CAES. P. C. CAES. AVG. GERM.

Head of Caligula.

C. CAES. AVG. GERM. P. M. TR. POT. III. COS. II.

6. Head of Agrippina............. .. .. .1 example.

AGRIPPINA. MAT. CAES. AVG. GERM.

Head of Caligula.

C. CAESAR. AVG. GERM. P. M. TR. POT.†

7. Head of Caligula.

C. CAES. AVG. GERM. P. M. TR. POT ....1 example.

Radiated Head between two stars.‡

8. Head of Claudius................................1 example.

TI. CLAVD. CAES. AVG. GERM. P. M. TR. P.

Female seated.

CONSTANTIAE. AVGVSTI.||

9. Head of Claudius............................1 example.

DIVVS. CLAVDIVS. AVGVSTVS. a Carpentum drawn by 4 horses.

In the exergue.

EX. S. C.§

10. Head of Claudius ....2 examples

TI. CLAVD. CAESAR. AVG. P. M. TR. VI. IMP. XI.

Victory pointing with a cadeuceus to a serpent.

PACI. AVGVSTAE.

* No. 1 of Akerman's Desc. Cat. I. p. 148.

† No. 1 of Akerman's Desc. Cat. I. p. 151.

‡ No. 11 of Akerman's Desc. Cat. I. p. 152.

|| No. 2 of Akerman's Desc. Cat. I. p. 155.

§ No. 7 of Akerman's Desc. Cat. I. p. 156.

11. Head of Claudius..1 example.
CLAVD. CAESAR. AVG. P. M. TR. POT. IMP. X.
An oak wreath within which,
S. P. Q. R. P. P. OB. C. S. ——— 522

Roman coins have been frequently met with in Southern India particularly in Coimbatore. The Collector in forwarding the above described specimens to Government, notices a similar discovery as having been made at Palachy in the same district in 1800. " A pot was dug up containing a great many Roman coins of Augustus and Tiberius. They were of two kinds but all of the same weight and value."* These were probably the same referred to in a sketch found among the late Col. Mackenzie's papers of " gold and silver imperial coins found in Coimbatore," the latter in Kongyam in 1801. Of these there are 10 drawings all of silver denarii, of the same types as Nos. 1 and 3 above described and the recurrence of which in such large numbers, on two different occasions, is sufficiently remarkable. Col. Mackenzie's other sketches refer to " gold coins found at Caroor in 1806." They are five in number all of different types. 1. AVGVSTVS DIVI. F. with a very curious and apparently undescribed reverse like a dog or sow or some large quadruped, with its nose to the ground and its tail over its back, below which in the exergue IMP. X. 2. The common type of Tiberius as Pontifex Maximus. 3. Of Antonia CONSTANTIÆ. AVGVSTA. (Akerman D. C. I. p. 148. No. 1.) 4. Two of Claudius, one CONSTANTIÆ AVGVSTI (Akerman I p. 155. No. 2.) and the other S. P. Q. R. P. P. OB. C. S. in an oak wreath. Mr. Garrow a former Collector of Coimbatore, in a letter dated 1817, also alludes to a silver coin of Augustus found in one of the old tombs called Pandu Culis with a number of the irregularly shaped punch coins, met with in all parts of India. A letter from Mr. Alexander Davidson, formerly Governor of Madras published in the 2d vol. of the Asiatic Researches† dated July 1787 mentions the discovery of a number of Roman gold coins at Nellore, by a ryot ploughing. About 30 fell into the hands of the Nawab Amir ul Umra among which were several Trajans in fine preservation. His Highness presented two to Mr. Davidson, a Hadrian and Faustina.

In June 1838, an aureus of Trajan in fine preservation was picked up by a woman gathering sticks on the side of a stony hill near the village of Athiral in the Chitwail Talook of the Cuddapah District.

Obv. Head of Trajan.

* Hamilton's Gazetteer p. 636. 8vo. ed. voce Palachy.
Buchanan's Journey II. 318. His description is somewhat inaccurate.
†Asiatic Researches, vol. II. p. 331. 8vo. ed.

IMP. TRAIANO. AVG. GER. DAC. P. M. TR. P.

Rev. A soldier with a spear over his shoulder marching to the right.

COS. V. P. P. S. P. Q. R. OPTIMO. PRINC..

A solidus of Zeno was found in company with three or four of the pagodas called Animitti from their bearing the impression of an elephant and with several silver coins of the type figured by Prinsep as No. 9 of his Ceylon Series* at the foot of an insulated hill in the Tirumangalum Talook of the province of Madura in May 1839. The Animitti were struck by the Princes of the Shera Dynasty. The type of the Roman coin, which has been pierced to be worn as an ornament, bears the armed bust of the Emperor, with

DN. ZENO. PERP. AVG. and the type of victory holding a long cross VICTORIA. AVGGG. Θ. In the exergue CONOB.†

Still more recently in June 1840 a hoard of Roman aurei was discovered at the Village of Darphal about 15 miles from Sholapoor. They were contained in a small earthen lota and only eighteen were secured, chiefly of the reign of Severus, but a few also of Antoninus, Commodus, Lucius Verus, and Geta. Drawings of a few have been seen and some of these prove to be rare types, such as Severus,

ADVENTVI. AVG. FELICISSIMO.	AkermanDesc.Cat.		No. 3	vol.1.	p.341
FELICITAS SAECVLI	do.	do.	do. No. 36		343
FORTVNÆ. REDVCI.			44		344
PROVIDENTIA. Medusa's head.			126		349

One of the Emperors on horseback spearing a Lion appears to refer to a type of Commodus (Akerman No. 99) but the legend is illegible in the drawing. There is also a specimen of Lucius Verus with the type of Œsculapius—and SALVTI. AVG. V. S. P. Q. R. TR. POT. III. COS. II.

It may be added that Roman coins are frequently picked up along the sea shore, to the South of Madras, on mounds of sand distant about 5 or miles apart, on the surface of which they are discovered after high winds or heavy rains. They are mostly oboli worn so smooth as to leave little more than the head and device discernible. The legends of Valentinian, Theodosius and Eudocia, have however been read. Old Hindu and Chinese coins are met on the same spots.

W. E.

Occurrence of Graphite in Tinnavelly and Travancore.—This fact was communicated to us in a letter from a valued correspondent transmitting a number of specimens of limestone from a great bed

* Journal Asiatic Society, vol. vi. pl. 20. p. 298.

† No. 1 of Ackerman's Des. Cat. II. p. 381.

of that rock near Papanassum apparently primary with gneiss on the flanks. This bed runs N. W. and S. E. The graphite occurs both in the limestone and the gneiss and was met with most abundantly in some specimens of yellowish calcareous spar obtained from a quarry or pit in kunkur close to the village of Vickersingam which is at least a mile or a mile and a half S. of the great limestone bed and with a chain of gneiss hills between. The kunker is soft, friable and dug for lime and the calc-spar concretions form boulders in the general mass. "The brilliant metallic scales" our correspondent continues " in the yellowish calc spar must be graphite notwithstanding their brilliancy. Rubbed on paper and looked at *direct* the marks appear black and carbonaceous, but examined obliquely they have the appearance almost of globules of quicksilver,—native amalgam. You will observe these graphite scales also in the specimens from the regular limestone bed ; also in some decomposing specimens of Gneiss and felspar from the Ayen Covil Ghat.* In Travancore the specimens of graphite are from the base of the mountains at Caviattan coodul about E. N. E. of Trivanderam, but you will observe in the 6th Volume of the Madras Quarterly Journal p. 57. in the account of the Trivanderam observatory by Mr. Caldecott that graphite (misprinted granite) is stated to be largely disseminated in the laterite ,which I did not know at the time I found my specimen. The scales at Trivanderam however are very small. I understand also that graphite scales of large size were found at Coolatoray 20 miles S. of Trivanderam when searching there in General Fraser's or Mr. Casamajor's time for coal, so that the graphite tract seems to extend from about 8°—15′ to about 8°—45′ on both sides of the mountains, but perhaps still farther though less easily observable in the highly crystalline varieties of gneiss. If these indications follow the direction of the strata N. W. and S. E. may they not point to the similar deposit in Ceylon?"

The specimens above adverted to, were examined by Dr. Macleod who recognised the graphite immediately. He compared the scales with the finest London B. B. drawing pencil which they resembled exactly. He also tried them with the blow pipe and with acids and deflagrated them with nitrate of ammonia; though, as he observed these tests are hardly necessary to identify graphite, simply rubbing it on paper with the finger being sufficient. The greasy, unctuous touch and fine metallic polish of the finger are sufficiently characteristic.

Language of the Gonds or Goands.—" The people about" here" [Karanjia 16 miles W. of Amarkantak] " are Gonds they know but

* Between Culdacoorchy in Tinnevelly and Colatoorpolay in Trivancore, in which also a deposit of a kind of tufa or kunkur rock was met with, forming a wall or cliff with caverns containing large stalactical concretions.

"little of the Gond language; Hindui and Hindustani are spoken through-
"out all the districts W. of Jubbalpûr. I have begun making a collection
"of Gond words and I am astonished to find that many are either Cana-
"rese or Tamil." Extracts of a letter from the Revd. Mr. Loesch to the Revd. Mr. Mitchell, Bombay, dated Karanjia 1 April 1842. *Or. Chr. Spec. Vol.* 3. *(2nd. Series) p.* 240.

If this fact proves to be correct, it opens an interesting field for ethnological investigation. The Revd. M. Loesch was the head of a German Mission proposed to be founded in Goandwana. He arrived in Bombay in September 1841, with 5 unordained brethren who were artisans and agriculturists. After some difficulty in selecting a station they rented some waste lands at Karangia. But the climate proved uncongenial. Four out of the six Missionaries died of fever and in the begining of 1843 the two remaining brethren abandoned their station and came to Kamptee intending however to resume the Mission.

To the same effect Mr. D. F. M'Leod of the Bengal Civil Service, writes to the Secretary of the Asiatic Society: "I have long purposed intimating to you a remarkable philological fact. It was clearly ascertained by a German missionary, named Loesch, that the language spoken by our Gonds is fundamentally the same with the Canarese. Mr. Loesch had become familiar with the latter formerly at Mangalore, and other places under the Bombay Presidency, and found himself able almost to converse with the Gonds, or at all events to make himself in a great measure understood by them by using this language; and being a gentleman of great acquirements and philological acuteness, had he lived, I have no doubt he would have been able to throw much light on the interesting question of the origin of the people. It has been decreed otherwise; but were the facts generally known, Canarese scholars might be induced to turn their attention to the subject." *Friend of India 28th March* 1844. *p.* 203.

Early use of Cast Iron in China.—A letter has recently been received from the celebrated Prussian missionary Gatzlaff, who is at present in China. It contains the following curious observations: "I have obtained uncontradictable evidence that the art of constructing buildings of cast iron was practised several centuries ago in the celestial empire. I found on the summit of a hill near the town of Tsing-Kiang-Foo, in the province of Kiang-Nan, a pagoda entirely formed of cast iron, and covered with bas-reliefs and inscriptions. The dates and the form of the character belong to the period of the dynasty of the Tsangs, who occupied the throne as

early as the fifth or sixth century of the christian era. This monument, therefore may be presumed to be twelve hundred years old. The structure is singularly elegant, in its form, and surpasses every thing of the kind I have hitherto seen." *Br. and For. Review*

Discovery of Sulphate of Barytes or heavy spar on the East Ghauts by Captain Newbold.—Captain Newbold in a recent communication informs us that he has lately discovered the existence of Sulphate of Barytes in the Nulla Mulla hills (Eastern Ghauts) in the vicinity of Gazoopelly in the Kurnool territory, in about Latitude 158° 25′ N.

"The site" he adds, "lies about 6 miles easterly from the village, in the jungle, and is marked by numerous excavations formerly made by the natives in search of lead. The barytes occurs in the argillaceous and arenaceous shales into which the Kurnool and Cuddapah limestone often passes. These rocks are intersected by *rake*, or fissuriferous veins, composed principally of quartz, and argillaceous and calcareous matter, abounding with galena in nests and strings, and sulphate of barytes in masses; nodules and broken veins, having externally a yellowish brown ferruginous aspect. The sulphate is both of the crystalline and massive varieties with a lamellar structure often curved in the latter and divisible into right rhombic prisms. The colour white and greyish-transparent, easily frangible. Before the blow pipe it decrepitates, phosphorises and fuses with difficulty into a white enamel. In the interior flame it assumes a burning sulphurous or hepatic taste and on being bruised with the hammer or rubbed with any hard substance, gives out a sulphurous odour. Hardness: 3. of Mohs; spec. grav. I found to be 4-2, a little less than that of European sulphates which vary from 4-4 to 4-7 the difference probably arising from foreign admixture."

"The following is an abstract of an analysis of this mineral with which I have been favored by my friend J. Macleod Esq.; Inspector General of Hospitals. 'A portion of the mineral was digested in muriatic and nitric acid, but they had no action on it. Another portion was boiled in a solution of carbonate of Potass. The solution thus formed was tested for sulphuric acid by muriate of Barytes, which proved the presence of sulphuric acid. The insoluble portion now dissolved in dilute muriatic acid, forming a solution which yielded a white precipitat to dilute sulph. Acid. A portion of this precipitate was evaporated to dryness and dissolved in alcohol. The solution was ignited but the flame exhibited no appearance of that beautiful carmine colour so peculiar and so characterestic of the soluble salts of strontian. It was therefore not strontian but barytes."'

"Three other minerals were found not yet analysed and reddish brown oxide of iron in the veins with the barytes and or at least with rocks of an age anterior to the lias, as galena does not usually occur in formations less ancient than the new red-sand stone but extends downwards to beds considered as primary. Mineral character is, however only one out the four tests by which geologists determine the age of rocks and of which superposition is the principal. The remaining tests are organic remains, and included fragments of another rock the age of which is known. Mr. Malcolmson found a fossil plant in the sandstone of Won in the Hydrabad territory of a deep black colour; and Lieut. Munro discovered fossil plants in the sandstone of Nagpore resembling the *glossopteris danæoides* of the Burdwan coal field, figured by Dr. Royle in his 2d plate which was shown to me by Mr. Malcolmson at Bombay and of which he has given an interesting account in No. 5 of the Bombay Journal B. B. A. S. With these plants impressions were found which he thinks not unlike those of the large bony scales of the sauroid fishes of the carboniferous and old red sandstone rocks, especially of the latter. Mr. Malcolmson very properly adds, they are however too imperfect to justify any opinion as to their nature although in a subject so new no indication should be overlooked. The Kurnool, Cuddapah and Nagpore limestone and sandstone formation is distinguished by a very striking mineralogical feature—that of the latter of these associated rocks being the geognostic situs of the diamond. Owing to their connection with and relative position to other rocks it is a point of great importance to fix their age, wherein will be found a key to the geological chronology of southern India. In connection with this interesting subject I may add that Dr. Walker of the Nizam's service has recently sent me specimens of true coal discovered by himself in the limestone of the Hydrabad country. The identity (which is very probable) of this limestone and the diamond limestone of Cuddaph, and Kurnool still however, remains to be proved.

The Syrian Church in China.—A French journal states, that "there has lately been placed in the principal gallery of the Collection of M. S. S. at Paris, an inscription in the Chinese and Syriac languages of the date A. D. 781 showing the arrival of Syriac missionaries and propagation of Christianity in China in the 7th and 8th Centuries. The inscription was found in 1825 in a city of China."

Literary Gazette
No. 1416.

XII.—*Review.—Illustrations of Indian Ornithology.* *No.* 1 *to be completed in* 4 *Nos.* *By* T. C. Jerdon, Esq. J. B. Pharaoh, Madras 1843.

Until of late years the period of British supremacy in India has been little marked by attention to scientific research. The French with smaller means and a more confined range were earlier in the field; and the frequent recurrence of the trivial name *Ponticerianus* marks how well they seized the opportunities afforded them of describing some of the more familiar natural forms. It was however less from defect of observation than from absence of means of publication that English naturalists appear so far behind. The recorded observations and drawings of Doctor Hamilton Buchanan embraced every branch of Natural History and are equally remarkable for their accuracy as their extent. But from want of patronage they have never seen the light. His stores are even believed to have served as the unacknowledged materials for less laborious observers. But latterly a more honorable feeling has prevailed, and his merits have been acknowledged and proclaimed by McClelland, Blyth and other recent naturalists.

The work now before us is an honorable contribution both to the science and the art of southern India. Mr. Jerdon early distinguished himself as a profound and accurate observer and his Catalogue of the Birds of the Peninsula in the preceding Nos. of this Journal is one of the most complete and useful descriptive lists that has ever appeared. The 1st No of the present work seems intended to follow out the same design by adding Illustrations of the new and more remarkable forms embraced in the Catalogue. They are published in two sizes 4to. and 8vo.—the larger size being more accordant with the usual form and pretension of such publications,—the smaller more handy and easy of reference and with the additional advantage of being fitted to bind up with the original Catalogue. But in both the figures are exactly the same. In execution and coloring they challenge a comparison with the best illustrated works that have issued from the European press. Yet with the exception of the back and fore-grounds, the perches &c. for which Mr. Jerdon has been indebted to an amateur friend, the whole appears to be the performance of Na-

tive artists, evidently however controlled and directed by the author's knowledge of the habits, forms and attitudes of the different Birds. The 12 figures in No. 1* are not confined to any particular class but comprise Accipitrine and Passerine, climbing and wading individuals, interesting alike to the naturalist, the sportsman or the simple admirer of nature. The new facts developed regarding the Paradise-Fly catcher and the notice of the habits of the large Hawk Eagle [which Mr. Blyth considers to be identical with the *Aquila Bonelli* of Europe†] are valuable contributions to science, while the lovers of the chase with whom India abounds, cannot but be gratified with the successful delineation of their old friends, the painted rock-grouse and the solitary snipe, the latter in its natural haunt by the edge of a swamp at the foot of a shola or coppice on the Neilgherries. The peculiar character of the scenery of these mountains is exquisitely preserved both in this plate and in that of Ward's Thrush. One of the best figures appears to us to be the Royal Falcon No. 12 in which the bold and dignified repose of the noble bird of prey is happily caught. We have no doubt that the author is correct in considering this species to be the Falcon originally described by Aldovrand, as seen by him at the Court of the Grand Duke of Tuscany to whom a pair had been sent from the East. The Shaheen has long been famed in oriental field sports and is described in Persian and Arabic treatises on Falconry of a much earlier date than that referred to.‡ It is notorious that the art of training the Falcon was introduced into Europe from the East and it can hardly be doubted that the returning Crusaders carried with them both the Shaheen and the Byhree the two most docile and easily reclaimed of the long-winged Hawks, and consequently the most priz-

* 1 *Nisætus grandis* [*strenuus in the plate.*]
2 *Leucocirca albofrontata.*
3 *Zanclostomus viridirostris.*
4 *Accipiter besra.*
5 *Picus Hodgsonii.*
6 *Prinia cursitans.*
7 *Muscipeta paradisea.*
8 *Turdus Wardii.*
9 *Scolopax Nemoricola.*
10 *Pterocles quadricinctus.*
11 *Phœnicornis flammeus.*
12 *Falco Shaheen.*

† Calcutta Jour. Nat. His. No. xvi. Vol. IV. p. 535.

‡ Ulysses Aldovrand a Noble of Bologna and Professor in the University of his native city was born 1525; died 1605. The Hawks were probably sent to Ferdinand de Medici.

ed by sportsmen. The Byhree would soon be recognized as identical with the Peregrine of their own country, but the Shaheen must always have been a rare and costly exotic. It is farther remarkable that the Baz the prince of Asiatic short winged Hawks, has attained an equal celebrity in the west under the name of the Falcon Gentle. In India a cast of Bazes can rarely be purchased under 1000 Rupees. But by genuine sportsmen they are less prized than the Byhree, the long flights of which at the Crane or Heron constitute the perfection of falconry.

But to return to the Illustrations. It only remains to notice the few defects in execution which are sufficiently explained in the introductory notice. But it is matter of serious regret that the letter-press should not be in keeping with the rest of the work, particularly as regards the inferior quality of the paper.

We trust to see this defect remedied in the future numbers of a work which ought to occupy a permanent place in every scientific Library, and on the shelves of every Indian reader both in this country and at home.

XIII.—*Abstract of proceedings of the Madras Literary Society.*

At the Annual General Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held at the Society Rooms at the College on Saturday the 16*th January* 1841.

The Secretary submitted to the Meeting, statements of the Society's account for the past year.

The following donations having been made to the Society since the last annual general Meeting, the thanks of the Society were unanimously voted to the donors.

Result of Astronomical observations at Madras for 1838-39	Madras Government.
Narrative of the Discoveries of Sir Charles Bell in the Nervous system	James Shaw Esq. on the part of the author A. Shaw Esq.

Piddington on the Law of Storms as applying to the Tempests of the Indian and China Seas..........	Madras Government.
Choix de Contes et Nouvelles, traduit du Chinois par Theodore Pavie..................	The Translator.
Braddock's Guide to Chemical Test and Analysis..	The Author.
Transactions of the agricultural and Horticultural Society of India 7 vols........................	Agri-Horticultural Society.
Topography of Calcutta. By F. P. Strong Esq......	The Author.
The Vishnu Purana. Translated into English by Professor Wilson, 4 Copies.......................	Madras Government.
Captain Low's Dissertation on Penang and Province Wellesley....................................	Lieut. T. J. Newbold.
A Help in acquiring a knowledge of the Canarese language (English and Canarese.)........	Do.
Journal of a Tour along the Coast of Java and Bali &c.	Do.
Aperçu General Sur le Territoire D'Arménie........	Do.
The Risalah of Shekh Alkhatul..........	Do.
Tarekhi Ferishta................................	Do.
The History of Seringapatam and Madras (Persian.)..	Do.
The translation of the Gospels into Malay..........	Do.
The poems of Amir Khusroo (Persian.)...........	Do.
Journal of the Asiatic Society of Bengal for 1840....	Asiatic Society of Bengal.
Transactions of the Royal Medico Botanical Society of London, Vol. 1. Part 4.........................	Medico Botanical Society.
Journal of the Royal Geographical Society of London, Vol. 9. Part 3..............................	Royal Geographical Society of London.
Transactions of the Geological Society of London. Second Series—Parts 1, 2, 3, of Vol. 5............	Geological Society.
The Calcutta Journal of Natural History............	The Editor.
Corbyn's India Review for 1840....................	The Editor.
Treatise on Arms and Warlike Implements, in Arabic..	The Earl of Munster.
Journal of the Royal Asiatic Society of Great Britain and Ireland, No. 11...................	Royal Asiatic Society.
The India Journal of Medical and Physical Science for 1840..................................	The Editor.
The Chinese Secret Triad Society of the Tien-ti Huih...	Royal Asiatic Society.
The Chinese Repository for 1840.....................	The Editor.

Scientific Memoirs selected from the Transactions of Foreign Academies of Science and learned Societies and from Foreign Journals. Vol. 2. Part 7........	The Editor.
Wilson's Two Lectures on the Religious Practices and opinions of the Hindoos........................	C. P. Brown Esq.
Essay on the Creed, Custom and Literature of the Jangums, 2 Copies......	Do.
Proceedings of the Geographical Society of Bombay..	Bombay Geographical Society.
Specimens of Rocks from Southern India..........	Lieut. T. J. Newbold
Singular spherical mineral masses from Streepermatoor.	J. Sanderson Esq.
Specimens of the silicified wood from Trivecary.....	C. T. Kaye Esq.
Shell Limestone from Pondicherry.................	Lieut. T. J. Newbold
Specimen of Coal from Mergui......	Col. W. Cullen.
A bottle of water filled from the hot spring near Rheim.	Do.
A bottle of water filled from the hot spring near fort Lismore............	Do.
Specimens of Indian Marble (polished)............	Do.

It having been suggested by Dr. Cole that one more Report on the Mackenzie M. S. S. was due. It was resolved—That it be referred to the Committee of Papers to enquire from the Rev. Mr. Taylor whether his reports on the Mackenzie M. S. S. are concluded and that the Secretary of the Committee of Papers be requested to communicate this Resolution of the Society to the Rev. Mr. Taylor; it being necessary for the Society to write to the Government on the subject.

At a General Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society convened by special Notice on Wednesday the 18*th August* 1841.

The President stated that the object of this Meeting was to determine as to the propriety of discontinuing the publication of the Madras Journal of Literature and Science; he had attentively examined the whole of the papers and accounts which had been in circulation amongst the Members of the Managing Committee and he would now bring the result of that examination before the present Meeting to enable them to form a correct judgment on this subject. He stated that it having been considered advisable to order from England the paper necessary for the printing

of the Journal it appeared that shipments of paper were made to Mr Cole by Allen and Co. the booksellers in England on the 1st April 1837

to the extent of	82	10	0
on the 30th October 1837	80	7	0
on 4th April 1838	82	3	6
and a consignment of books to Mr. Cole as the Editor on 2d August 1837	10	C	6
	£ 255	1	0

That by some unaccountable mistake the letters written by Allen and Co. to Mr. Cole, on 13th April 1839 1st June 1839 and 18th January 1840 have never been received, but that copies of these letters are now forwarded by Allen and Co. to the Secretary and are on the table, by their letter of the 13th April 1839, a balance was shewn in Allen and Co.'s favour of £ 292. 2 0 and on the 1st June 1839, a bill for £ 100 0 0 was acknowledged and on the 18th January 1840 the account was made up to the end of 1839, shewing a balance against the Society of £ 220 7 8. By Allen and Co.'s letter to Mr. Cole of May 31st 1841 the balance due to Allen and Co. at the end of December 1840 amounted to £ 240 6 7.

On examination, however, of the account it appears that the Society had been debited with a work (Cuvier) purchased by Mr. Cole on his separate account of the value of £ 27 10 3 which being deducted, left the balance of £ 212 16 4 due from the Society. By letters from Allen and Co to the Secretary dated January 30th 1841 there was a sum in their

hands of	77	10	5
and a bill for	100	0	0
	177	10	5
and that after the payment of a sum of £ 11 10 10 as mentioned in their letter the balance in their hands in favor of the Society amounted to	£ 155	19	7
That Allen and Co. by their account admit that the sum of .	100	0	0
had been remitted on 28th July 1841	255	19	7
so that on deducting the sum due for the debt of the Journal..	212	16	4
there would be a sum of	43	3	3

on the general balance due to the Society.

Adverting to the sale of the Journal that there is a sum of Rupees 1823 0 0 due from persons who have not paid for their copies; that numbers, to the value of Rupees 5,856 8 0 remain unsold; and that

the loss already incurred by the Society on account of the Journal since August 1836 is Rupees 3032 10 10. Under these circumstances it would be for the Society to say, whether the Journal ought to be continued?

The Rev. F. Spring then moved on the above statement of the President that the publication of the Journal be discontinued. N.B. Acworth Esq. seconded the motion. Walter Elliot Esq moved as an amendment, that the Regular Quarterly publication of the Journal be discontinued, and that instead thereof, an occasional number should from time to time be published, as matter of sufficient interest is found to accumulate with the Committee of Papers, and that the publication shall be confined entirely to original papers, and that the publication of each number shall be sanctioned by the Committee of Management. Major Underwood seconds the amendment which was put and carried.

The President then moved that the thanks of the Society be given to R. Cole, Esq. for the great zeal and talent which he has displayed in conducting the Journal of the Society. Walter Elliot Esq. seconded the motion which was carried unanimously.

The thanks of the Meeting were then voted to the President and the meeting adjourned.

At the Annual General Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, held at the College on Tuesday the 8*th February* 1842.

The Secretary lays before the Meeting the usual Financial Statements.

The Secretary then read a letter from the Honorable Sir R. Comyn dated 15th January 1842, resigning the office of President of this Society on which it was proposed by the Chairman and carried unanimously, that the thanks of the Society be presented to Sir R. Comyn for his valuable exertions during the period he filled the office of President of the Society.

The Chairman then proposed that Sir Edward Gambier should be requested to undertake the office of President of this Society which was carried unanimously and the Secretary was requested to communicate to Sir E. Gambier the wishes of the Society hereon.

The Secretary then read a list of the Donations of Books which had been made to the Society during the last year.

Mr. Walter Elliot then brought forward a resolution which was seconded

by Mr. Acworth. "That the 7th, the 8th, the 9th and the 10th existing Rules of this Society be rescinded, and instead of the business of the Society being conducted by two Committees as hitherto that the Committee of Management and the Committee of Papers shall form one General Committee, with power to appoint Sub Committees, as may be required, from the Members of the General Committee and that the duties conducted by the Committee of Papers of the Asiatic Department be in future entrusted to a Sub Committee so selected which being carried unanimously the follwing resolutions were then proposed.

1st. That the management of the affairs of this Society be vested in eleven Members who together with the Secretary shall form the General Committee of Management of this Society and that such ten Members be severally chosen at the annual General Meeting of the Society.

2d. That the General Committee of Management shall elect their own Chairman, who shall, ex-officio, be a Member of all Sub Committees.

3d. That the whole of the funds of this Society shall be subject to the control of the General Committee of Management and that all donations and subscriptions shall form one fund to be appropriated for the general purposes of the Society—which Resolutions being also carried unanimously,

The Committee of Management then present proceeded to elect their Chairman and J. C. Morris Esq. was immediately chosen as the Chairman and took his seat accordingly.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society on Wednesday the 8th June 1842.

Walter Elliot Esq. stated that he had observed in the list of unclaimed letters published by the Post Master General one addressed "Alla Societá d' Istoria Naturale a Madras."

Resolved.—That the Secretary be requested to claim it on behalf of the Society, and that it be laid before the next Meeting of the Committee.

Resolved.—That the Members of the Committee do make a careful examination of the different classes of the works composing the Library of this Society, and make reports thereon, shewing what standard authors are required for purposes of reference in each class. That at the same time the opportunity be taken of correcting and arranging the Catalogue

so that a new edition may be prepared and printed without delay.

Resolved.—That when these Reports have been laid before the Committee and confirmed that steps be taken to prepare and print a new Catalogue, and to arrange the books according to the subjects in the different cases.

Resolved.—That the classes be assigned to the different Members of the Committee as follows.

Divinity and Belles Letters to the Rev. G. Knox; History to N. B. Acworth Esq. and the Rev. G. Knox; Politics, Statistics and Law to M. Lewin Esq. Biography to J. Minchin Esq.

Natural Philosophy to Lieutenant Worster.
Natural History to Walter Elliot Esq.
Novels to W. Douglas Esq. and N. B. Acworth Esq.
Oriental Literature to Messrs. Morris and Elliot.
Classical ditto to the Rev. G. Knox.

Antiquities comprising ancient Architecture, Numismatics, &c. } to Col. Felix and W. Elliot.
Foreign Literature.———.

Resolved.—That Messrs. Elliot and Worster be appointed as a sub-Committee, and be requested to examine and report on the present state of the Museum, with permission to avail themselves of the assistance of persons qualified to lend their aid in each particular department.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society on Thursday the 7th July 1842.

From the examination of the Library now in progress it appears that the four first volumes of Buffon's Natural History a work consisting of 137 Vols. are wanting and the Librarian states that they have been taken to England by Mr. Sullivan.

Resolved.—That the Secretary be requested to write to Mr. Sullivan to beg that he will be good enough to return them.

The Committee then proceeded to examine the Report of the Sub-Committee as to the books that were to be sold and confirmed the same with the exceptions mentioned in the list.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held on Monday the 15*th August* 1842.

The Secretary lays before the Meeting the following letter from C. P. Brown Esq.

25*th July*, 1842,

My Dear Mr. Minchin,

The accompanying are the documents (*Copies* of inscriptions and books) which were laid before the Literary Society by Captain Newbold before he went home. On examination they proved to be chiefly Jaina books in the ancient Canarese language : I made an attempt to translate them but desisted for want of aid : no native known to me possessing a sufficient knowledge of the ancient Cannadi to explain these papers in a satisfactory manner. Those who have attempted the work complain that these transcripts are so erroneous that no translation can be made in a satisfactory manner. This however is perhaps only an excuse to cover their own ignorance—or their reluctance to read papers upholding sects (Jaina and Jangam) that oppose the Bramins. At Bellary or Bangalore I have no doubt a translation could easily be found : but the task would be tedious the papers being so extensive.

Yours very Sincerely
(*signed*) C. P. Brown.

Walter Elliot Esq. undertook to look over the papers referred to in it, and to bring the subject forward for the further consideration of the Meeting, about six Weeks or two months hence.

The Secretary lays before the Meeting the following letter from M. De Tassy.

53 Rue St. Andre des arts,
Paris, 19*th Xbre.* 1841.

Monsieur,

Je profite de l'occasion d'un de mes éléves qui retourne dans l'Inde, pour me rappeler au souvenir de la Société littéraire de Madras ā laquelle j'á l'honneur d'áppartenir depuis long-temps en qualité de Membre honoraire.

Je n'ái pas cru nécessaire de réclamer contre le bruit de ma mort qui s'est repandu dans l'Inde l'án passé et que le journal de la Société, a publiė cette nouvelle dont je ne comprends pas l'origine ; puisqu'on me citait á coté de mon honorable maitre et ami M. le Baron Silvestre de Sacy avec qui on aurait pu me confondre á cause de mon surnom. Elle a été aussi répeteé par le Journal de la Société Asiatique de Calcutta avec laquelle je suis neanmoins en correspondence d'une maniére plus suivie. Quoiqu'il en soít je crains qu'élle n'ait contribué á faire cesser de la part de la Société de Madras, l'envoi de son interessant Journal dont j' ávai sreçu les premiers volumes. Si la Société voulait m'áccorder la faveur de me l'envoyer encore, a partir de janvier 1842

j'acheterais á Londres les volumes qui en manquent pour avoir la collection complette. La Société ne doit pas douter que je serais tres reconnaissant de cette marque d'intéret et que je me ferais un devoir de lui étre utile, dans l'occasion, soit auprés de l'Institution royale de France, soit auprés de la Société Asiatique de Paris, soit á toute autre maniére.

Je desirerais bien savoir si on a fait dernierement á Madras quelque publica tion en hindoustani. Je n'ái pas encore pu me procurer le tome II de la traduction hindoustani des mille et une nuits. Il serait bien á desirer qu'on en continuât l'impression.

Je m' occupe activement du second volume de mon Histoire de la literature hindoustani-Je tàche d'obtenir le plus de renseignements possibles-Pour cela je me recommande á la bienveillance de toutes amis de la litterature orientale.

J'ai l'honneur d'étre avec une consideration parfaite.

Monsieur,

Votre três humble Serviteur

(Signed) GARCIN DE TASSY.

Membre honoraire de la Societie litteraire de Madras,

53 *Rue St, Andre des arts.*

The Secretary is requested to complete M. de Tassy's copy of the Madras Journal of literature and science.

The Secretary produces the rejected books which at the last Meeting were ordered to stand over for further consideration and also a statement from the Librarian shewing how often they had been required from the Library by the Subscribers.

Resolved.—That a general Meeting be called on Saturday the 27th instant to sanction their sale and the sale of the books already rejected by the general Meeting.

At a Special General Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held at the Society's Rooms, at the College on Saturday the 27*th August* 1842.

The Secretary then read to the Meeting a list of various books rejected by the Sub-Committee and with the exception of several works which the Meeting considered necessary to be returned to the Library, the rest were unanimously determined to be sold.

Resolved.—That the General Committee be authorized to carry into effect the Resolution of the Meeting to sell the books now rejected at the best price they can obtain for them.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society on Monday the 19*th September* 1842.

Several Members having brought their reformed portions of the Catalogue, Resolved that in compliance with his offer the Rev. G. Knox be requested to superintend the preparation of the new Catalogue and that a Writer be specially placed under his orders.

That all books recommended as desiderata to be added to the Library be included under their several heads in a separate book as a sort of new Catalogue.

With a view to a renewal of the Journal as determined at the General Meeting held on the 18th August 1841, it is proposed that the following Gentlemen be elected as a Committee of Papers, or rather that the whole Committee be considered as a Committee of Papers and that Messrs. Worster and Elliot be joint Secretaries to the Committee of Papers, that the Secretaries examine all Papers and circulate such as they think proper and adapted for publication on examining the papers already collected and take measures to collect new ones.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held on Saturday the 19*th November* 1842.

The Secretary reads the following letter received by him from Mr. Piddington.

Sir,

I am authorised by the Committee of Papers of the Asiatic Society, to forward to you the accompanying Memorandum relative to the Museum of Economic Geology of India *now forming, in the confident hope that you will personally, and through your friends, kindly assist their views and those of Government, as far as lies in your power.*

With respect to carriage of Specimens, such small ones as may not exceed the usual dawk banghy weight, say 500 *Tolas, may be sent at once, addressed to the Secretary of the Asiatic Society, and those above that weight dispatched by the nearest water carriage, preferring the Steamers if obtainable.*

I am, Sir,
Your obedient Servant,
H. PIDDINGTON.
Curator, Mus. Econ. Geology of India.

Calcutta, 1*st November,* 1842.

MUSEUM OF ECONOMIC GEOLOGY OF INDIA.

The objects of the Museum of Economic Geology of India, which has been established by Government at Calcutta, under orders from the Hon'ble the Court of Directors, in conjunction with the Asiatic Society and at its Rooms are the following: They are, as scientific men will perceive, generally those of Economic Geologists in all countries, but there are some peculiarities connected with India, and the situations of Europeans in it, which will oblige us to go into a little detail, to explain to those who may not already take an interest in these matters, our wants, our wishes, and our hopes of the advantages which may accrue to the community from this new establishment. Its objects them are briefly these:—

1. To obtain the most complete Geological, Mineralogical, and Statistical knowledge possible of all the mineral resources of India, wrought or unwrought, so as to make them as publicly known as possible, to shew how they have been, or are now wrought, or how they might be so to the best advantage.

2. To obtain a complete set of specimens, models, and drawings, relative to the Mining operations, Metallurgical processes, and mineral manufactures of all kinds, of India and of Europe and America; so as to afford to the public information of every thing which can be turned to account here or in Europe, and perhaps prevent loss of time, waste of capital, and disappointment to the Indian speculator.

3. To furnish the Engineer and Architect with a complete collection of all the materials, natural or artificial, which are now, or have formerly been used for buildings, cements, roads, &c. and of all which *may* possibly be useful in this department, whether European or Indian.

4. To collect for the Agriculturalist, specimens of all kinds of soils remarkable for their good or bad qualities, with the subsoil, subjacent rocks, &c and by examination of these, to indicate their various peculiarities and the remedies for their defects.

5. To collect for Medical men, the waters of mineral springs, mineral drugs, &c. &c.

6. And finally, by chemical examinations of all these various specimens, to determine their value, and how they may be best turned to account for the general benefit of the community.

With objects like these the Museum of Economic Geology may be said to be placed between the purely scientific geologist and the merchant, the miner, the farmer, the manufacturer, and the builder, or in other words, the merely practical men, who may desire to know how the knowledge of the geologist and mineralogist,—to them often so recondite, and apparently so useless,—can for-

ward their views: and its office, to be, if possible, to answer all questions of this nature which may arise, for public benefit.

This may sometimes to be done from books, but the great library must be the collections of our Museum, which are in fact a library of examples, to which the commentary is the laboratory; where, aided by the resources of the collection, questions may often be solved in an hour, a day, or a week, which it would take half an Indian life to obtain the mere materials for investigating. An extensive collection, then, is the first requisite, and this should, if possible comprise every inorganic product of the earth from which mankind derive any advantage, with every information relative to it. It will readily occur to the reader, that in India, owing to her infancy in some of the arts dependant on these products, as in mining, agriculture, &c.; and her singular progress in others, as in peculiar branches of Metallurgy and the like, our almost absolute ignorance of what her methods and resources are, the peculiarities of situation in which these resources may exist, those of climate, workmen, and many others, we have almost every thing yet to learn; and that to accomplish our objects, we cannot be too well furnished with all the knowledge and examples of Europe and the Americas, and all those of India, or of Asia. Without these, our progress must be very limited; but in proportion as we obtain them, we may hope, without presumption, to see the day when the mines, the quarries, and the soil of India may be done justice to, which assuredly, has never yet been the case.* In this all classes are so clearly interested, that it would be superfluous to shew it, as it is to shew that the resources of every country are far more readily developed with public means for investigating, preserving, and publishing all knowledge belonging to them, than where none such exist.

It is therefore hoped, that those who may be desirous of assisting this great public work, will bear in mind, that nothing, however familiar it may be to those on the spot, is indifferent to us; for *if not wanted for the institution, it may serve to procure that which is;* and the following note is given rather as a general memorandum than as specifying all which is desired. The general rule is, that details cannot be too numerous, nor specimens too various, particularly if purely Indian.

* It is curious to find that upwards of 140 years ago, the ores of the precious metals were an article of export from the Dutch East Indies! This is clearly shewn by the following passage from Schlutter's work, as translated by Hellot, and published by him under the title of "Hellot sur les Mines," Paris 1753. In Vol. II, p, 215, Chap, XLVI, "*On the East Indian Ores and their Fusion by the curved Furnace,*" he says,—

"In 1704, Schlutter received by a private channel twenty-five quintals of ore from the East Indies, &c." And again: "These sorts of ores (of gold and silver) sent from India by the Dutch were frequently smelted at the foundery of Altenau in the Upper Hartz, but had never been smelted in the lower Hartz. This ore was in lumps from the size of a nut to that of walnut, and by trials it was found that the quint of 110lbs. contained 1 oz. 8 drs. of gold and 3 oz. of silver."

DESIDERATA FOR THE MUSEUM OF ECONOMIC GEOLOGY OF INDIA.

I.

Mines and Mining Products.

1. Specimens of all crude ores, just as found. If possible also, of the rocks a matrix in which found; of those indicating the vein at the surface; of the walls of the veins; of the strata or beds passed through before reaching them and of the rocks of the surrounding country.

2. The ores after preparation for the furnace by picking, washing, stamping roasting, &c.

3. The rejected ores, gravel or stones found with those used; which often go under odd names, as those of " mother, devil," or the like.

4. The fluxes used, if any.

5. Memorandum of the kind of fuel used, samples of it if coal or coke, &c. names of the trees, as bamboo, &c. if charcoal; and if not too far, send specimens.

6. The roasted or half smelted ore.

7. The pure metals, as obtained in a merchantable state, of all the qualities.

8. The slags, of all kinds, from the furnaces and smeltings.

9. Drawings of models, (to scale if possible) of all furnaces, machinery, and implements used in any of the processes, with drawings, plans and models of the mine. Earthern models of the furnaces, &c. may often be well made, by the native image makers for a mere trifle.

10. Specimens of any tools used,

11. Traditions, history, and statistics of the mine or mineral products, as (1) How and when found; (2.) Produce, gross and net; (3.) Rent if farmed, or what tax payable on the product; (4) Price of daily labour; (5.) Amount of labour obtainable for a given price; (6.) Estimated profits, past and present; (7.) Reasons for decay or increase; (8.) What is now required to make the mine more productive; (9.) Copies or notices of any books or accounts of the mine; (10.) Health, comfort, morals, and condition of the workmen employed, average of ages, and of life among them if thought unhealthy; seasons and hours of work. Superstitious notions, peculiar diseases, &c. &c.

II.

Buildings, Cements, Pottery, Colours, Roads, &c.

1. Specimens from the quarries, of all kinds of building stones, useful or merely ornamental.

2. The same of limestones, shells, corals, or other articles, used to make lime or cements of all kinds.

3. Specimens of the strata above and below the quarried stone.

4. Any fossil shells, bones, fish, plants, insects, or other appearances of organic remains large or small, found in or near the quarries, or amongst the rubbish and watercourses of quarried spots. If specimens appear too large to move, please to give a notice, with an eye-sketch, and estimate of the expence of moving, and preserve it till a reply is sent.

5. Specimens of the building stones or remarkable bricks used in any public edifices, monuments or tombs, with the date of their erection if known, and a note to say if exposed to weather or protected by stucco, paint, or roofs.

6. Memoranda and specimens of any plants or animals destructive to masonry, as boring worms and shells in water, and the like, with specimens of their work.

7. Ornamental or stucco-work : specimens of it, new or old, interior or exterior, with the best account procurable of the materials, preparations, and working of them.

8. Specimens of stones and marbles, shells, &c. used for image or ornament-making ; of earths for pottery, and varnishes of coloured earths of all sorts, whether used as pigments or not.

9. Specimens of peculiarly good materials used for roads, whether ancient or modern, with prices, method of using them, and other Memoranda.

10. Prices of all the above ; rates of labour, carriage, &c. from the rough to the wrought state, and all other statistical details as in the case of Mines and Mineral products above mentioned.

III.

Agricultural Geology.

1. Specimens of soils of good, and the best qualities, for all kinds of produce, as sugar, cotton, tobacco, &c.

2. Of infertile soils or veins of earth.

3. Of the subsoil or rock.

4. Of the stones scattered about these soils.

5. Memoranda relative to the height of these soils above the water of wells in the rains and dry season, and of its drainage, shelter, exposition, &c.

6. Of any kind of earths, mud, or stones used as manures, as peats from the jheels, kunkurs, &c.

7. Of the deposists (fertile and infertile) left either by the common inundations or by violent floods, with memoranda of their effects on the cultivated soil

8. Specimens from any separate spots, where gravel or stones are collected in quantities after inundations or floods.

9. Accounts of remarkable floods, and average heights of the rise of rivers.

of the raising of the soil, alterations in its produce consequent thereupon, and all other details.

10. Memoranda relative to the formation or destruction of river-banks, islands, &c. with measurement if obtainable.

11. Samples of all kinds of efflorescent salt-earths, with specimens of the different salts prepared from them, prices of preparation, selling rates, and accounts of the processses aud uses of the salts.

12. Specimens of brine springs, with details of manufacture if boiled for salt, and statistics of labour and produce, &c. as in the case of mines.

IV.

Medical Geology.

1. Specimens of mineral medicines of all sorts, whether produced on the spot or imported, crude and prepared, with notes and samples of the process of preparation in all its stages.

2. Of the water of mineral springs, their temperature, incrustations about them, account of their uses, and specimens of the rocks or soil in which found.

V.

Native Metallurgical Processes, or Mineral Manufactures.

1. Exact descriptions of them, however rude or simple they may appear, with samples of the ores, fuel, fluxes, products, slags, &c.

2. Models or drawings (to scale if possible) of the furnaces and implements of all kinds; specimens of these last may be sent.

3. Memoranda and samples of the earths or sands used for moulds in castings, of the crucibles and beds, raw and baked, and of the raw material from which made.

4. Prices of raw and wrought materials.

5. Drawings of machinery used for turning, boring, polishing, &c.

In conclusion: It is not supposed that any individual, unless wholly devoted to the research, can supply the whole of the desired specimens, or even of the knowledge relative to any one product; but any *single* item of the foregoing may be of importance, at sometime, to some one; and it will be the special duty of the Asiatic Society, and of the Curator of the Museum, to see justice done to every contribution; whether relating to the Geology of India in general, or to this peculiar branch of it.

H. Piddington,

Curator Museum Economical Geology.

Resolved.—That a copy of the enclosure be forwarded to the following Gentlemen.

Major General Cullen.

Captain Newbold.

D. Balfourr, at Ahmednuggar.
Captain James Allardyce, at Dhawar.
Dr. Primrose, at Hyderabad.

And that a copy of the letter with its enclosure be sent to the Gazette with a request that the same may be published therein.

The revised Rules are read and having been approved are ordered to be printed.

At a General Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held at the Society's Rooms at the College on Monday the 28th November 1842.

The Secretary stated that this Meeting of the Society was called by the Committee for the purpose, amongst other things, of obtaining the sanction of the Society, to the alteration and amendment of some of the Rules of the Society which in the opinion of the Committee had become necessary, and which if sanctioned would be printed in the Catalogue now in the press, the supervision of which had been undertaken by the Rev. G. Knox.

J. Minchin Esq. then proposed that the thanks of the Society be given to Dr. Jerdon and Captain Newbold for the very able manner in which they had arranged and classified the Geological specimens, in the possession of the Society.

Resolved.—That the Secretary be requested in the name of the Society, to subscribe to the Quarto edition of the work now publishing by Dr. Jerdon and called " A series of fifty coloured lithographic Drawings of Indian Birds" which being seconded by N. B. Acworth Esq. was unanimously carried.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, held on Tuesday the 20th December 1842.

The Rev. G. Knox produces the new Catalogue. The committee desire to record their grateful thanks to the Rev. G. Knox for the trouble and pains he has taken in the preparation of it.

Resolved.—That a notification be published in the papers stating that the new Catalogues are ready for distribution to Subscribers who are re-

quested to send to the Library for them. That a copy be sent to the Editor of the Spectator requesting him to bring the *objects* and *terms* of the Society to notice in an Editorial and stating that it is the intention of the Society to continue the publication of the Journal in a modified shape.

Resolved.—That copies of the Journal containing the Reports on the Mackenzie M.S.S. be sent to Mr. Eastwick of the Bombay Army who has kindly offered to translate some of them.

Resolved.—That after the selection from the rejected books for the Garrison Library is made by Captain Worster the remainder be sent to Messrs. Franck and Co. for sale by auction.

Resolved.—That copies of the letter and enclosure received from the Bengal Asiatic Society be also forwarded to the following Gentlemen in addition to those mentioned in the proceedings of last month.

Captain John Campbell.
all Civil Engineers
and
Officers on Survey.

At an Annual General Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held at the College on Monday the 30th January 1843.

The Secretary laid before the Meeting abstract statements of the Funds of the Society in both the departments from which it appeared that in the General department after payment of disbursements to the extent of Rupees 5389 6 4 during the past year there was a balance of Rupees 651 3 11 in its favor and that in the Asiatic Department there was a balance in its favor in the hands of the Agents of Rupees 69 3 ,, which sum the Secretary stated had in accordance with the existing Rules of the Society been transferred to the general Department as all donations and subscriptions are in future to form one fund.

The following donations having been made to the Society, since the last annual General Meeting the thanks of the Society were voted to the donors:

A compilation of Papers on the spread of useful plants in India presented by the Madras Government.

Survey of Mergui Harbour by Richard Lloyd Esq. . . . . do.
Report on the Ganges Canal . . . . do

Report upon the Khonds of Ganjam and Cuttack by Lieutenant Macpherson.

Hodgson's Illustrations of the Literature and Religion of the Buddhists.............................. .... the author.

Five volumes of German books on the Military Code of the Prussian Army by Lieutenant Colonel Alexander.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, on Friday Evening the 21*st April* 1843.

Read letter from Captain Newbold dated Kurnool 20th March 1843 acknowledging the receipt of the communication dated 14th March last and its enclosure forwarded to him by the Committee.

Captain Newbold begs to acknowledge the receipt of the communication dated 14th Instant and its enclosure from the Managing Committee M. B. R. A. S.

He presumes that the suggestion thrown out by Dr. Jerdon and himself in their joint report on the collection of minerals belonging to the Society, for establishing an independent Museum of Economic Geology at Madras—is not likely to be matured (?) and will be most happy to forward the views of the sister Society at Calcutta, as far as is in his humble means.

Some years ago he had the honor of presenting the Madras Society with a number of of MSS.and copies of inscriptions on stones chiefly from Bijanugger and other places in the Ceded Districts, Canara, Mysore, Sravan-Belgola, under condition, as far as he recollects that a *Catalogue raisonnee* should be made, and copies granted him. He would feel much obliged by copies as he has promised them to the Asiatic Society of Paris.

He would also feel grateful if the Managing Committee would supply him with the last twelve numbers of the Nouveau Journal Asiatique de Paris as soon as out of circulation at Madras. Also the two last bound volumes of that Journal which he requires for reference. They shall be returned carefully as soon as done with.

Camp Gongondla—Kurnool, March 20*th* 1843.

With reference to the establishment of a Museum of Economic Geology,

Proposed by Walter Elliot Esq. that Dr. Cole and Captain Best report on this matter at the next meeting.

Walter Elliot Esqr. states that he will be prepared to circulate a notice on the Canarese papers before the next meeting.

Read letter from the same Gentleman, dated Kurnool 24th March 1843 bringing to the notice of the Committee that a considerable portion of the Mackenzie M.S. S. are still lying unreported on in the archives of the India House.

Resolved,—that J. C. Morris Esq. and Walter Elliot Esq. report on the subject and that the Secretary be requested to address Captain Newbold for further particulars.

Read a letter from the Rev. G. Knox, dated 10th April 1843 forwarding for presentation to the Society a volume of poems by his brother entitled "Giotto and Francesca and other poems."

Resolved,—that the Secretary be requested to convey the acknowledgments of the Society for the same.

The Secretary lays before the Meeting a communication in Telugu, received from M. Annuntacharry Bramin dated 14th April 1843 containing Verses in praise of the Right Honorable Lord Elphinstone.

Resolved,—that the Secretary be requested to thank the author for the same.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held on Thursday Evening the 11*th May* 1843.

Read letter from the Honorary Secretary to the Royal Asiatic Society dated London 13th February 1843. Stating that the Society has under consideration of enlarging the scope of their Journal and requesting the Members of the Branch Society and their friends and correspondents would furnish the Royal Asiatic Society with informations of interest to Oriental literature for publication in it's Journal.

Resolved,—that the Secretary be requested to assure the Secretary of the Royal Asiatic Society of their anxiety to forward the views of the Society and that they will use their best endeavours for that purpose.

Read a letter from Lieutenant Eastwick of the Bombay Army dated 17th April 1843, presenting to the Society through Walter Elliot Esq. a copy of his Vocabulary of the Scinde language.

Resolved that the thanks of the Society be communicated to Captain Eastwick.

Walter Elliot Esq. lays before the Meeting the following proposals for printing the Journal, together with a list of the old subscribers still in the Presidency.

Memo.

Assuming that the Journal will contain about 150 pages 8 vo at 14 annas per page for any number of copies not exceeding.. 300	131	4	0
Superfine printing demy paper for 200 copies 3 Rms. 18 Qrs. 3 sheet 12½ Rupees per Ream	48	13	3
To Stitching and cutting in coloured paper wrappers at 1 anna each	12	8	0
	192	9	3

Tabular pages will be charged at Rs. 1 4 0 per page.
The plates will form a separate charge.

(Signed) R. W. THORPE
Supt. V. M. Press.

Estimate on preceding			
3 Plates at 2 Rupees	6	0	0
	198	9	3
From subscribers to 150 copies at 1½ Rupees	225	2	0
Remain..	26	6	9

to cover deficiencies and leaving 50 copies for distribution. Contributors also will expect a few spare impressions of articles sent by them.

Memorandum for Walter Elliot Esq.

The undersigned would be happy to undertake the printing &c. of the Madras Journal of Literature and Science on the following terms Viz.

Printing a No. to consist of 200 copies of 150 Pages royal 8 vo in new bourgeois type	131	4	0
Supplying paper for do	54	11	0
Covering do with coloured paper stitching &c.	12	8	0
Rupees	198	7	0

This amount includes every charge excepting for plates: as the asylum Press has no Lithographic Department, these had better be executed at the Government Lithographic Press, where the work would probably be performed either gratuitously, or at a very low rate of charge.

Should a smaller number of copies be required than 200 the charge would be proportionately less for paper, covering stitching &c. the charge for printing would be the same.

Resolved.—that a Notice be circulated to the old Subscribers requesting their continued support to the renewed publication of the Journal under the modified form now proposed and at a cost not exceeding 1½ or 2 Rupees per number, also that steps be taken to procure additional subscribers at out stations by the dispatch of printed circulars to every station and by the publication of an Advertisement in the Government Gazette and the Spectator Newspapers.

The sub Committee appointed to take into consideration Captain Newbolds proposition for rendering the Mackenzie M. S. S. available to the public, having reported in favor of it.

Resolved.—that J. C. Morris Esq. be requested to draw up a distinct proposal to Government for the purpose of carrying out the object of the Society.

The sub Committee for the museum of Economic Geology lay before the meeting their Report which is read as follows:

There can be but one opinion as to the utility and desirableness of establishing a Museum of Economic Geology in Madras, as proposed by Captain Newbold, but it is quite certain that the Literary Seciety does not possess the means, constituted as it now is, of carrying such an object into effect.

An institution of the kind exists at Calcutta, designated the "*Museum of Economic Geology of India*" a brief sketch of the origin and constitution of which will serve to shew how impossible it would be for us here to carry out such a plan, without greatly increased resources

Originating (we believe) in a suggestion by Mr. Dela Beche Director of the Ordnance Geological Survey in England, the Honorable Court of Directors of the East India Company addressed a recommendation to the Government of Bengal that a Museum should be established in Calcutta, and offered to give a "moderate salary to any individual who might be found competent for the discharge of the duties of Curator;" Mr. Dela Beche having stated in his report on the subject "that a Laboratory and good analytic chemist appointed to it were among the earliest requisites," the Governor of Bengal at the recommendation of the Asiatic Society nominated Mr. Piddington Curatorwith a Salary of 250 Rupees per mensem and the Society made arrangements for the "efficient estab-

lishment of the Museum" on its premises, and erected buildings for its accomodation out of the funds of the Society. The correspondence and proceedings connected with these transactions may be seen in the 124th No. of the *Journal of the Asiatic Society of Bengal.*

If the Museum projected for Madras is to be on a scale commensurate with the importance and magnitude of the objects, it is clear that the Literary Society possesses neither the funds for its Establishment nor adequate space in its apartments for its accomodation. It is for the Committee to determine whether Government should be addressed on the subject, perhaps some member of the Society would consent to complete the arrangement of the minerals &c. now in the cabinet of the Society and to perform the duties of a Curator on a limited scale. Captain Smith of the Engineers, a Member of the Society, possesses all the qualifications required for such an office: and Mr. Ross the Assay Master and Dr. Middlemas the Deputy Assay Master, also Members, from the nature of their professional duties of course are qualified also for analytical investigations. In the meantime the Society being publicly known to possess a mineralogical Cabinet, to which it has invited donations, specimens continue to be received, and at any future time may be arranged with regard to their economic uses.

Resolved.—That the Sub-Committee be requested to prepare a representation to Government for the purpose of ascertaining whether they will afford the means of establishing a Museum of Economic Geology at Madras.

At a Meetiny of the Managing Committee ef the Madras Literary Society and Auxiliary of the Royal Asiatic Society on Thursday Evening the 8th June, 1843.

Read letter from H. M. Blair Esqr. Principal collector of Canara dated 11th May 1843. Forwarding two boxes containing specimens of "Porcelain earth" found in the vicinity of Mangalore.

Resolved.—That Dr. Cole be requested to examine the specimens of porcelain earth with Dr. O'Shaughnessy's pamphlet and that the specimens be forwarded to Government with such observations as may appear necessary.

Read a letter from Captain T. J. Newbold dated 12th May 1843, soliciting that copies of the Sassanums and other inscriptions forwarded by him to the society be furnished to him or the originals returned; likewise

stating, that Col. Sykes promises to give a lift if the Government propose to the Court of Directors to establish a museum of economic geology provided it do not cause expense to the Government in curator and house room.

The Society have already resolved to address Government with reference to the resolution of the last meeting on the subject of a museum of economic geology.

The Secretary lays before the meeting prospectus of a work entitled physical geography of New South Wales and Van Diemans land in two volumes by Count Streliski, sent by Captain Best.

Resolved.—That further inquiries be made regarding the work, its price &c. from Captain Best.

At a Meeting of the Managing Committee of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held on Friday Evening the 7th July 1843.

Read a letter from N. B. Acworth Esqr. dated 24th June 1840, mentioning that the Map of Arabia Petrœa is wanting in the 1st. Vol. of Robinsons Palestine although there is a notice of the publisher at the commencement of the work stating that it was not ready at the time of the publication of the work and that any purchaser returning the notice to Mr. Murray will have the map presented to him.

Resolved.—That the Society's Booksellers be furnished with the notice and requested to claim the map and transmit it

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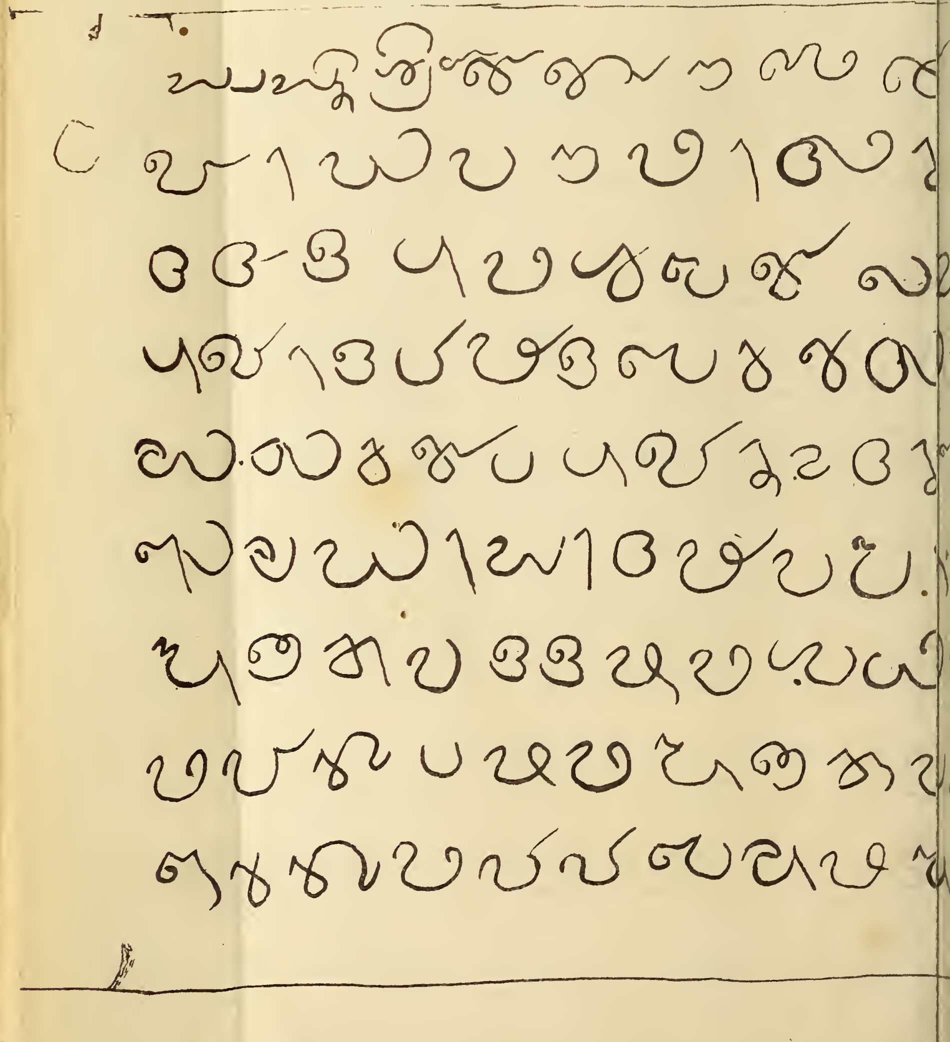
Facsimile of the Copper Grant bel



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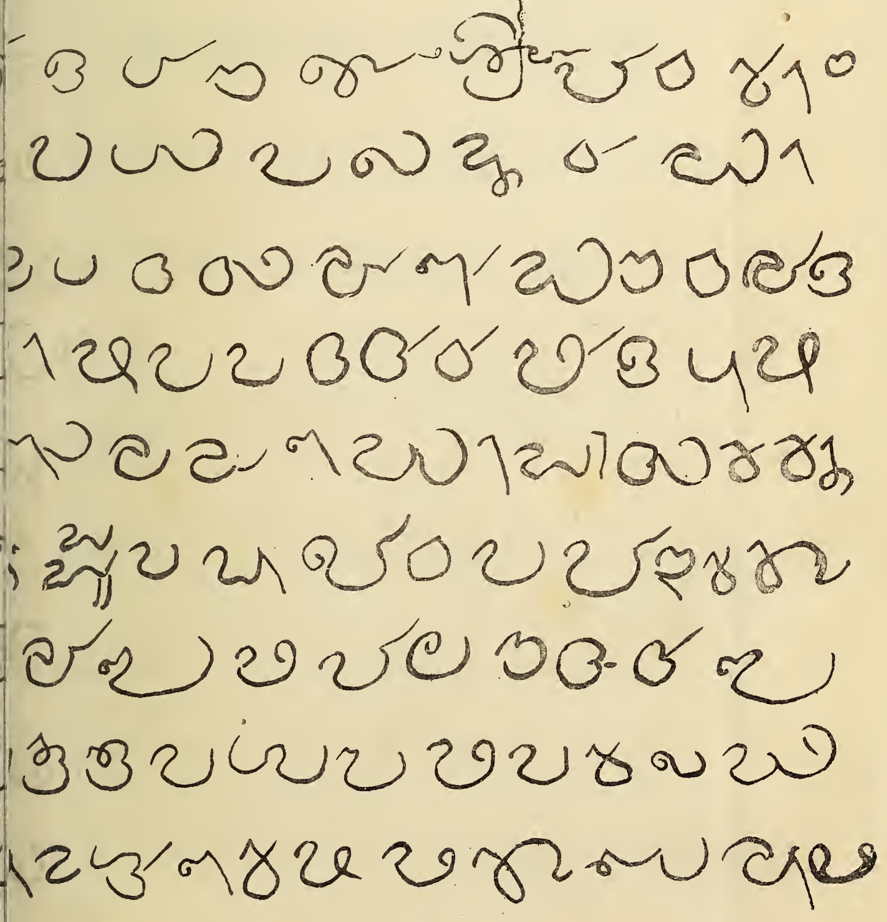

W scrips^t.